

796
OBSERVATIONS

I N

PHYSICK,

B O T H

Rational and Practical.

W I T H A

TREATISE *of the* SMALL-POX.

Ἱπποκρῆ τεχνέων μὲν πασέων ἐστὶν ἐπιφανεστάτη.
Hippocrates.

Χαλεπὸν εὐρεῖν λόγον ἀληθῆ.

By THO. APPERLEY, M. D.
formerly Fellow of S. John's College, Cambridge.

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OSTEOPATHY

IN

PHYSIC



THEATRE

THEATRE

BY THEO. APPERLEY, M.D.
F.R.S. &c.

LONDON

Printed by W. Innys, in St. Paul's Church-yard,
and J. Leake, at the
Museum.

TO THE
RIGHT HONOURABLE
THE
Lord Arthur Somerset,
OF
POSTON-COURT, in the County
of HEREFORD,
THESE
OBSERVATIONS,

(As a publick Testimony of the sincerest
Gratitude, and highest Respect)

Are most humbly Dedicated,

BY

His LORDSHIP's most Obliged,

and most Humble Servant,

Tho. Apperley.

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THE
PREFACE.

HESE immethodical Observations were at first intended for private Use and Satisfaction only ; and it seems not necessary in the marshaling of them, to be scrupulous about Method. And I hope there may be some Advantage reap'd from them, whereby the young Physician may avoid many Errors. Observations founded upon solid Reasoning and Experience, are certainly most conducive to the Improvement of Medicine ; the Object of which is human Body, one of the most
A 3 surprizing

surprizing Pieces of Mechanism ; and all its Distempers are owing, either to a Variation of the Quantity or Quality, and irregular Motions of the Fluids; or to a bad Disposition and Texture of their Channels, and of the other solid Parts : Experience without Reason is deceitful ; and Reason not confirm'd by Experience is insignificant ; but both make a compleat Physician.

The great *Hippocrates* (*Medicorum facile princeps, cui nec ætas prisca videt parem in re medicâ nec videbit futura, cujus manes non injuria religiosè veneramur ; & qui solum creditur mortalis, quia est mortuus*) he, I say, has given us the best Account of the History of Diseases ; but has built the whole Science of Physick upon Experience and Observation, and courts neither the Jargon of Words, nor the Pageantry of Method. For a methodical Disquisition will never disclose the true Indications that must be observ'd
in

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in the Cure of Diseases. Whereas these immethodical Observations keep us clear of the Errors of those, who following their strain'd artificial Method in the Definitions of Diseases, either leave out, or wrest a great many of Nature's Precepts that will not fall conveniently within the Verge of their Method; by which means, such Methodists perplex the true Sense of Nature, and dropping the more substantial Parts of the Science, amuse themselves with the sorry Remains of dry and empty Systems. We are too fond of Hypotheses, set forth with store of Embellishments, and other recommendatory Glosses, which serve more for Ornament than Use.

But our Antient Fathers acted with more Prudence; as *Baglivi* well observes: His Words are; *Majores nostri non ignari, medicinam methodis, & partitionibus conclusam illustrari, & nobilitari posse; crescere verò, & confir-*

mari non posse : quicquid diuturnā observatione in morbis detegebant, describebant illud per sententias, nullis methodi, & scholasticæ subtilitatis legibus devinctas, sed libere expositas, notatasque. They observ'd what Nature really does, without wresting, or destroying her Proceedings to the Favour or Prejudice of any Hypotheses ; which if speculative only, are mere Dreams or romantic Tales, which ingenious Men tell of supposed Beings, that never existed but in their own Brains : 'Tis Nature, as the great *Hippocrates* says, cures Diseases ; 'tis therefore our Business diligently to follow her.

I depend upon no Man's Opinion, without I find it agreeable to Reason and Experience ; *Amicus Plato, amicus Aristotelis ; sed magis amica veritas.* And Truth, as a very learned and witty Divine observes, like a stately Dame, will not be seen, nor shew herself at the first Visit ; nor match with the Understanding

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standing upon an ordinary Courtship or Address. Long and tedious Attendances must be given, and the hardest Fatigues endured and digested: Nor did ever the most pregnant Wit in the World bring forth any thing lasting and considerable, without some Pain and Travail, some Pangs and Throws before the Delivery.

And 'tis certain, Truth is not to be found by the Lazy and Indolent; she flies from the Sluggard, and will be found only by those who diligently seek her: And tho' I know the ancient Writers are by some Men superannuated; and modern and upstart Authors are only priz'd, yet certainly we employ our Time very well, when we consult the Fountains, and see what the first Instructors in Physick have discover'd to the World. It is the great Fault of the present Age, that they converse little with the old Writers; but every little Pamphlet of the Moderns is preferr'd

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ferr'd to them ; which proceeds, for the most part, from the Love of Novelty, and a Dislike of Antiquity, as also from a lazy Temper in too many of this Age, who will not be at the Pains to search into the Truth of Things, and to go to the Spring-Head, but are content to learn the Knowledge of them at the second Hand. But I am far from encouraging any young Striplers to pluck those grave Authors by their Beards ; let them rather listen to what the venerable Grey-Hairs have dictated, and by the judicious Writings, and just Observations which they have left, let them be inform'd of the State of the noble Medical Art in those Days, and let them love that Truth which is of so antient a Date. For, as one well observes, he that is well vers'd in, and has well digested the Writings of the antient Physicians, will, with a little Help of Practice, easily attain to what others, who are wholly Strangers to this Branch of Learning, can never be able to compass ;

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pass ; those, I mean, who know little themselves. For 'tis not possible for a Man, tho' he lives to a great Age, to attain to this Part of Knowledge, so considerable in itself, unless he treads in the Track of the Antients, the Extent of this Science far exceeding the Bounds of human Life. But if the Perusal of antient Authors comes once to be slighted, what can any single Person find out, or Proportion can his personal Abilities, tho' much superior to others, bear to the immense Treasures of the Antients? In short, he that reads not the Books of the learned Physicians, antient and modern ; nor understands something of the Nature of Diseases even before he comes to visit, will, when he comes to attend the Sick, either thro' Ignorance or Mistake, overlook the Distemper, because he does not before hand understand any thing of it.

The learned Dr. *Freind*, who was well acquainted with these Fathers, in
his

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his History of Physick, gives you his Opinion, That a Man may practise, and practise all the Days of his Life, and yet be never the wiser for his Experience, if he neglects to make the proper Observations, which that Experience might suggest to him ; and 'tis not very likely he should be over-nice in his Observations, who constantly goes on in his first Track, and has no other Scheme, but his own narrow Notions in his View ; whereas, the Searcher of Authors has the Benefit of other Mens Experience together with his own : and 'tis from the joint Concurrence of these, that we can hope for any considerable Advancement in Knowledge : Were it not for this, the oldest Practitioner would always be the best Physician ; and there would be little or no Difference, even as to the scientific Part, between an old Nurse and the most regular Professor.

And,

And, I hope, this Book may be of some Service, if what the above-mention'd learned Physician says, be true, That any Book in our Faculty, which affords good Observations in Practice, which gives a Description of any new Distemper, or some remarkable Case ; or a new Method of Cure in an old one, deserves to be look'd into by those who would make the proper Advantage of other Mens Experience: Nay, I should not think that I advanc'd a Paradox, if I said, that a very indifferent Performance in Physick may, now and then at least, be worth the cursory Perusal of a Physician, both as it employs his Thoughts in his own Way, and as it must, in the Course of reading, give him constant Hints how far, and in what manner this, or that Particular, relating to Theory or Medicine, may be improv'd ; and even sometimes might start an Occasion of striking out something new of his own.

However,

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However, I must tell you, that to rely upon the Experiments of others, tho' never so much extoll'd, without thoroughly examining them yourself, is dangerous ; because the Circumstances of any Disease are so many, and various, that it is difficult to judge, whether this or that Medicine may answer one's Desire, or whether the Disease is curable, or how it will determine.

Besides, since we have no Medical-Bible written by Divine Inspiration, as one observes ; and since the Nature of particular Men, and Things, is every where different, and Cases, and Circumstances, are innumerable, it is very plain, I think, that we have no Means left, but for every one of us to fall to work, and make the best he can of his own Observations and Ratiocinations, and so be in Physick (tho' not in Divinity) a Free-Thinker.

In

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In short, he that intends to be a good Physician, must be well vers'd in Anatomy and Chymistry, the Animal Oeconomy, and the History of Diseases; he must be very well acquainted with the Rules and Practice of the most able Physicians, antient as well as modern; he must understand Pharmacy very well, otherwise he will be ignorant of the Tools he is to work with; he must observe carefully the good and bad Effects of Medicines; make nice Observations on his own Practice; and from all these Requisites, be capable of forming the most judicious Reflexions.

As to our Practice, the great Difficulty of Physick is to discover the Nature and Cause of the Disease, and know how to apply proper Remedies to relieve or eradicate the present Disorder or immediate Cause of the Distemper.

Hence

Hence it will appear, as Dr. *Holland* very well observes, how much they are mistaken, who trust to the Advice of an old Doctor or Apothecary, only because they have been long us'd, as they call it, to their Constitutions ; whereas, every body that knows any thing of Physick, must be sensible, that there is a great deal of Difference between being us'd to a Constitution, and understanding it : That Constitutions daily alter ; and when a Person is ill, the Judgment is to find out the present Constitution or State of the Disease, and be able to prescribe proper Remedies ; which he that is the best Physician is the most likely to do, tho' he never saw the Patient before, provided he takes Care to enquire whether the Patient has any Idiosyncrasy or natural Antipathies, and if any particular Medicines disagree ; which is all that is properly meant by a particular Constitution, and may soon

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soon be learn'd from the Apothecary, or any Person that is well acquainted with the Patient.

I have only this to add, That if I have made the same Observations that occur'd to others, and have chanced to express myself almost in the same Words, 'tis no more than different Persons may happen to make, and even express themselves very near in the same manner, while neither borrows from the other. And, that the Reason why I don't always mention the Names of some learned Authors and experienc'd Practitioners, from whence I have collected some Observations, is, because I would defeat those partial Impressions that too often arise from personal Regards only, which with too many determine the Force or Weakness of the Observation. I hope the Reader will forgive the many Faults in a Book wrote at leisure Hours, and in loose Papers; con-

[a] sidering

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considering the Usefulness of the Design, viz. to instruct young Physicians how to avoid many Errors in Theory and Practice, and consequently to make the Profession more beneficial to Mankind, and for no other End or Consideration whatsoever. The two great Pillars of Physick, as the *Italian Hippocrates* says, are Reason and Observation; but Observation is the Thread to which Reason must point: And questionless, we can't do better Service, both for the Embellishment of our Profession, and the Health of Mankind, than to influence the Students of our most noble Science, to have an attentive Regard to the Observations made by our Ancestors in the earlier Days of Antiquity, and be careful in forming new ones of their own. Had this Course been constantly pursu'd, from the Age of *Hippocrates*, down to the Age we live in, the Progress and Improvement of Physick had been unspeakable by this time. And as to the peculiar Cure
of .

of a Disease, (which is the main thing) as I take it, it will seldom succeed well, unless Reason be join'd to Observation; for the innumerable Causes of Diseases, the various Temperaments of Patients, the Difference of Age, Sex, Way of Living, and Climate, the various Seasons of Years, and an Infinity of other Things that concur towards the Production or Removal of Diseases; these, I say, do oftentimes so perplex and disturb the certain and constant Nature of the Disease, and its Symptoms, that 'tis a hard Matter to trace the Truth, unless the Complexion of them all be weigh'd and illustrated by a discreet Use of Reason. Nature performs her Motions in so occult a manner, that they can never be so easily trac'd, as by Observation, and Reason retaining to Observation. And the real Knowledge we have of Nature beyond the Antients, that we are not indebted for to Observation, would, I believe, upon strict Examination,

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not amount to much. To conclude, I do assure the Reader, that I never studied the Art of Physick, or practis'd it, upon the Account of Profit, or to get a Name; but to answer the Intent of my Creation, to do Good in the World. If the first or last indeed had been my Design and End, I should never have liv'd so long in my own native Country. But if these my poor, but honest and faithful Endeavours for the Publick Good, meet with tolerable Success, it may encourage me to publish other more Practical Observations upon both Acute and Chronical Diseases, for the Benefit of young Physicians, for whose Sake, and no others, these are wrote.



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OBSERVATIONS

IN

PHYSICK, &c.



THE whole Science of Physick is founded upon Reason, Observation and Experience; and not upon any methodical Disquisition, or Hypothetical, or Mathematical System.

Reason, * is the just Exercise of the Mind, upon clear Ideas. By Ideas I mean those Images or Impressions made upon the Mind by external Objects, thro' the Mediation of the Senses, which, when duly received, must be clear and distinct, without Obscurity or Confusion; and the reflex

* Reflections upon Reason.

2 Observations *in* P H Y S I C K,

Acts of the Mind, whereby she adjusts, compounds, and compares these Ideas, and from their different Combinations draws Inferences, makes Deductions, and forms Conclusions : We shall not here enter into the different Classes of Ideas, which some Writers of Note have retailed to their Readers and Admirers, with great Ostentation of Learning and Philosophy. Sure we are, that simple Ideas properly deserve that Name, and are the Materials, and Ground-work of all our rational Knowledge.

The Indulging of an unruly Fancy, instead of a solid Reasoning and Judging concerning Things, has been a great Cause of Error, and Impediment of Truth in the Medicinal Art. It was well said of one of the Antients, A Man's Soul is endanger'd, where there is too much Wit and Fancy, and but very little Judgment ; for the former, being once become predominant and rampant, hurry the Mind into wild Apprehensions of Things, and by that means betray it to Error and Falshood. Where this unruly Faculty gets the Mastery and bears Sway, it interrupts all sober Reasoning, and so is necessarily the Parent of Delusion and gross Mistakes. It is no Wonder that such Persons as these greedily embrace Falshood, when they give Way to their darling Hypotheses, which are foisted upon the World, instead of Rules that are the
Result

Rational *and* Practical. 3

Result of Experience, gain'd only by accurate Observations ; but those who take every little Notion or Hypothesis for the true Cause of a Disease, because it may perhaps flatter us with some Shew of Probability, are bitterly deceived, if they build their Practice upon it ; for Hypotheses must be founded upon Practice, not Practice upon Hypotheses.

For, as one observes * a great Cause why Medicine has, in so long a Tract of Time, made so small a Progress, at least in the practick Part of it, is the indulging so extravagantly to the setting up new Hypotheses, as the Custom of late has been. For the last Fifty Years and upwards, there has scarce been any Man in the Faculty, of pregnant Parts, and an exuberant Fancy, but what has formed to himself some new Notion or Notions, thereby pretending to solve all the Phænomena of Diseases, in the mean time too much neglecting the true Histories of Diseases, and the nice Observations of the *Juvantia* and *Lædentia*, the almost only Clews that lead us safely thro' so intricate a Labyrinth. Sometimes indeed they will vouchsafe us a general Idea of a Disease, such as will best quadrate with what they will needs have it to be, rather than such as does exactly agree with what it in Truth

* B. BEALE, M. B.

4 Observations *in* PHYSICK;

is: If any thing in a Distemper doth luckily happen remarkably to favour their Sentiments, that shall be sufficiently enlarged upon; but if any Thing be so cross-grain'd as to appear on the contrary Party, it shall either be slipt over in Silence, or, at the best, but slightly touch'd upon, unless it can by main Force be compell'd to change its Side; in Order to attain which End, if possible to be effected, no Pains shall be spared, no Labour shall be stuck at, rather than their idolized Hypothesis shall suffer a Baffle, much less quit the Field of Battle, and yield itself conquer'd. But the Mischief is, that Diseases being sturdy Things, and not giving Way so readily to Methods and Remedies recommended barely by Suppositions, how plausible soever, as to those found out by sound Reasonings, from nice and accurate Observations, does sufficiently evince to the Unbias'd, that discouraging fluently upon them, and curing them effectually, are Things as vastly different, as can well be imagined; and no Wonder, for in one Case we follow the Dictates of Nature, which, tho' sometimes not over clear, yet seldom fail of affording us some real Light; whereas in the other, we generally, notwithstanding all the specious Pretences to having our Eyes extraordinarily enlighten'd, run blind-fold we know not whither, and if by Accident we
sometimes

Rational and Practical. 3

sometimes hit the Mark, it is rather owing to Fortune, than to any considerable Degree of Art or Skill in the *Praxis*.

I must own, that the ingenious and learned Dr. *Freind's* Hypothesis of the Cause of the Periodical Purgations of Women, is very rational; who maintains, that this Flux is the Result of a meer *Plethora*, and to be evacuated only for Relief against the Quantity: This Phænomenon has exercised the greatest Wits of the Faculty, who, after many learned Arguments, and many ingenious Hypotheses, have not been able to come to Agreement amongst themselves; but as a Friend of mine has modestly said, * that he could subscribe to the afore-mentioned Hypothesis, did not many Observations convince him, that there is no such *Plethora*, or at least that it is not necessary to Menstruation: For if the *Menses* were owing to a *Plethora* so accumulated, the Symptoms would arise gradually, and the Heaviness, Stiffness, and Inactivity (necessary Symptoms of a *Plethora*) would be felt, long before the Absolution of the Period, and Women would begin to be heavy and indisposed, soon after their Evacuation, and the Symptoms would encrease Day by Day. But this is contrary to all Experience, and many Women who have

* Dr. DRAKE's Anatomy.

6 Observations in PHYSICK,

them regularly and easily, have no Warning, nor other Rule to prevent an indecent Surprize, than the Measure of the Time; in which some that have slipt, tho' otherwise modest and careful Women, have been put to such Confusions and Shifts, as would not consist with the Notice that a *Plethoric* Body would give.

But even in those who are difficultly this way purg'd, the Symptoms, tho' very vexatious and tedious, do not make such regular Approaches, as a gradual Accumulation necessarily requires.

If we consider what violent Symptoms will come on in a Day, or an Hour, we shall be extremely puzzled to find out the mighty Accession of Matter, that should in an Hour or Day's time, make such great Alterations, according to this Hypothesis; the last Day contributes no more than the first, and consequently the Alteration should be no more sensible, excepting the bare Eruption.

And then he proposes an Hypothesis of his own, which to me seems to have as much Probability and Reason in it, as Dr. *Freind's*, viz. that the Bile contained in the Gall-Bladder, which seems not to admit of a constant Issue, it may be there reserved, till in a certain Period of Time, the Bladder becoming turgent and full, thro' the Impression of the incumbent *Viscera*, it emits the

the Gall, which, by the Way of the Lactals, insinuating itself into the Blood, may raise that Effervescence, which occasions the Aperture of the Uterine Arteries.

This Hypothesis may be applied to the several Phænomena of the *Menses*, whether in a natural, regular, or a diseased Case.

The Solution of particular Problems, relating to this Part of the Animal History, flows very readily and naturally from it; and whatever may be urged for the Power of a *Plethora*, or of any particular Ferment (upon which Fermentation most other Hypotheses seem to be grounded) may be applied without any Straining to this: The only Difficulty is, whether the Bile be a sufficient Instrument to produce these Effects, and if it be, whether it does get into the Blood: One I think is on all Hands confess'd, and the other I think reasonable to be believed.

I mention these Opinions to shew how uncertain the Hypotheses of the most learned of the Profession are.

But I can't omit the Observation of a very rational and ingenious Physician, * viz. that *Opium* promotes all natural Fluxes, and stops all unnatural ones: 'Twas well known, for Instance, that it would stop the immoderate Flux of the *Menses*; but

* Dr. JONES, of Opium.

8 Observations in PHYSICK,

then that it would cause the *Menses* to flow too, was I believe known to few, (I remember 'twas the Practice of the famous Dr. *E. Brown* in *London* about 30 Years ago) and it does so when nothing is wanting, but the Opening or Relaxing the *Via*, or Pores they issue out at, as when they are naturally too narrow or close, as upon the first Tendency to them in young Girls, or when stoppt by Reason of any undue Contraction thereof, as by Pain, Cold, Sorrow, or other grievous Passions, all which do close the Pores. Besides it does irritate those very sensible Venereal Parts to Erection, and I have Reason to think that it does, by a general Relaxation, cause an Increase of Blood, as it does of the Breasts, Milk, &c. causing, as it were, an artificial Puberty, or at least much promoting the natural, and therefore is of excellent Use in this Case, in judicious Hands, tho' little thought of in Practice.

That *Opium* likewise causes the *Lochia* to flow, he had great Experience of, and for the same Reasons, that it does the *Menses*; for the *Menses*, *Lochia*, and Perspiration, are natural Evacuations that have Pores assigned for them by Nature, the Opening of which, by Relaxation, must make Way for them: Suppose when the Blood flows so much into the Skin, as to cause an Efflorescence, by the Relaxation thereof,

thereof, after *Opium* is taken, that there were Pores to carry out Blood, as there are for Sweat; why should not one flow as well as the other? But there are such Pores for the *Menses*, and *Lochia*, and large ones too, and therefore it must promote them; and why should not Relaxation do it, as well as Contraction by Cold, Terror, Grief, &c. stop them? for the Effects of Contraries are contrary.

Hence that excellent practical Physician * takes Occasion to commend his Julap for Child-bed Women, after the following Manner.

‘ It’s a blessed and well experimented
 ‘ Remedy for Puerperial After-Pains; and
 ‘ none here need fear stopping the *Lochia*,
 ‘ for that most frequently is occasioned by
 ‘ intense Pain, which by troubling the or-
 ‘ derly Motion of the Spirits, convulsing
 ‘ the Fibres, constringing the Membranes
 ‘ of the *Uterus*, and *Vagina*, and purging
 ‘ up the Mouths of the Vessels, suppresses
 ‘ the Efflux of these Ways; and therefore
 ‘ Opiates that take off those Pains, Hurry
 ‘ of Spirits, and Constrictions of Fibres,
 ‘ must needs promote the Purgation, and
 ‘ render it placid and plentiful.

And this is not a Practice only excogitated in a Study, and there deemed rational;

* Dr. FULLER.

10 Observations in PHYSICK,

but is sufficiently vouched by undoubted Experience, and particularly my own. I know many are against it, and especially a late Author, whom I must for ever honour, and therefore shall not name.

And a very Learned Physician † saith,
' If there be a Suppression of the *Lochia*,
' together with a violent Perturbation of
' the Blood, Vomiting, Thirst, and Watch-
' ing, I have known *Laudanum* (mix'd with
' *Saffron*) given with happy Success.'

And our *English Hippocrates* * after Trial of Emmenagogues to no Purpose, gives one single Dose of *Laudanum*, joined with Emmenagogues, and saith, ' However
' astringent *Laudanum* may be of its own
' Nature, yet since it composeth the Per-
' turbation of the Spirits, that interrupt-
' ed the due Evacuation, it sometimes
' helps mightily, and recovers the desired
' Flux, when forcing Things would do
' nothing; but (which ought to be heeded
' carefully) if upon giving it once, the
' *Lochia* do not follow, the *Opium* is not
' to be repeated, for if it be, it will so per-
' fectly stop them up, that they cannot be
' provoked again by Art.'

Perhaps this Caution of his may be right enough, in Case of a total Suppression, from Loss of Spirits, and Failure of Nature,

† Dr. WILLIS.

* Dr. SYDENHAM.

occasioned

occasioned by an hard Labour and Flooding; but otherwise, when the *Catamenia* flowed not freely enough, and Strength was not wanting, I have seen when *Laudanum*, daily repeated, hath brought them down fresh again, quell'd Hysteric Vapours, caused Rest, and supported more than the highest Cordial could do.

Before I leave this noble Drug, I must not omit this useful Observation of the ingenious Dr. *Jones*, viz. ' That as to the
' Time of giving it, it is very silly not to
' give Opiates till the very Time that they
' should operate, as 'tis usual at Bed-time,
' when they should be then operating, and
' causing Sleepiness, that the Rest and Ease
' of lying down may concur with it,
' whereas, if People are unapt to sleep,
' (as generally they are who take *Opium*)
' they, not taking it till Bed-time, lie tossing and tumbling, grow uneasy and restless, and the Bed hard, and (in great Part
' of the Year) hot, before the *Opium* operates, so that the *Opium* cannot take
' Effect, by reason of Disquietudes; so the
' Persons lie all, or most Part of the Night
' without any Sleep : whereas, if it be
' given so as to cause a great Sleepiness by
' the Time they go to Bed, their lying still
' a very little Time, (which they are then
' apt to do) and the Bed being soft, easy,
' cool, and pleasant, they immediately
' sleep,

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‘ sleep, and, their Spirits being composed,
‘ continue their Sleep all, or most Part of
‘ the Night ; therefore I have often come,
‘ where People had not slept, tho’ they had
‘ took an Opiate at Bed-time, and given
‘ the very same a convenient time before,
‘ and they have sweetly slept, to their
‘ Heart’s Desire, and Refreshment.

Observe, Reader, the great Use of time-
ing a Medicine well : I have many a time
cured very bad Distempers, by the same
Medicines, that others have, to no Purpose,
made Use of before, by only timeing, and
dosing them after a different Manner, which
can never be learnt but by Practice, good
Reasoning, and Observation. And as to
evacuating Medicines, as Vomits, Purges,
and Bleeding, if we hit on the proper time
they are to be applied, they will all of
them do infinite Service, and give Relief to
a Miracle, in acute, as well as Chronical
Diseases ; yet they often do Hurt, and some-
times kill the Patient, tho’ the Indication
seem to be the same.

I wish the practical Part of Physick has
not suffered by Mathematical Learning,
which I very much admire, when put to
its right Use ; but can never come into the
Opinion of a learned Physician of this Age,
* That if those who are designed for the

* Dr. MEAD.

Profession

Profession of Physick, are early, while their Minds and Bodies are patient of Labour and Toil, initiated in the Knowledge of Numbers and Geometry, that Mathematical Learning will be the distinguishing Mark of a Physician from a Quack, and that he who wants this necessary Qualification will be as ridiculous, as one without *Greek* or *Latin*.

But, as one observes, I think, Mathematical Learning has added little to the most useful, *i. e.* the Practical Part of Physick.

And 'tis observed, that even our famous *Pitcarn*, who is almost every where, and often justly exploding the antient Definitions in Physick, altho' sometimes unreasonably reflecting upon all others, who could not relish his Mathematical Medicine, who yet has furnished, I think, some as unsatisfactory, as those that, with great Warmth, he had discarded.

And indeed I am wholly of the Opinion of a late Author, that as to the Practice of Physick, I mean the Cure of Diseases, there is no Part of the Mathematicks that can be a greater Help, or give more Light into the Mysteries of it, than it can in those of Revealed Religion, and are no more useful than (as the Proverb says) *In Tragoedia Comici*, Comedians in a Tragedy; or, as *Baglivi* expresses himself, ' In my Opinion, ' Mathematicks, Rhetorick, Astronomy, &c.
are

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‘ are as conducive to a circumstantial and
‘ exact History of Diseases, as the Art of
‘ Painting is to a Musician.

And I’ll venture to say, that whoever is unacquainted with the Observations of the Antients, and the regular Appearance of the Symptoms of Diseases, will find Mathematicks of small Service in the Cure of them.

I must confess, says one, I would not willingly by any means discourage that most noble and useful Study of the Mathematicks, whose Improvements are so advantageous, so great, and profitable to the Publick, as well as satisfactory, and pleasant to each Proficient therein. But yet I cannot see, that Medicine, strictly speaking, will be much advanced thereby, nor how the Fluids, or Humours of the Body, from a thousand imperceptible Accidents diversifying their Texture, are at all compatible with the strict and plain Rules of Lines and Figures : So that, with a late Physick-Writer, I must look upon it, as an injudicious, and vain Attempt for any, in Order to discover the Nature of Diseases, to apply the Compass to a depraved Mass of Humours, or endeavour to square the Circle of the Blood.

I am not unacquainted how many pretty Hints are given, how many probable Truths unveiled, for this and future Ages, to
build

build some farther Discoveries upon, in that most excellent *Baglivian* Tract, *De Fibrâ Motrice, & Morbosâ*, yet surely those who have been entirely ignorant of *Baglivi's* System, have done excellent Service to their Country, in the Faculty of Physick. And truly for my own Part, I never expect to find more real Advantage accruing to Mankind in general, by this Way, by the whole Clan of Philosophic, and Mathematical Physicians, (notwithstanding some Modern Flourishes) than has already been done by that most diligently observing, and heedfully reflecting Author, the renowned *Harvey*; whatever others may think, I neither know, nor am solicitous, being myself well satisfied, that nothing short of Omniscience will ever be able to bring Medicine to bear strictly with Mathematicks.

Indeed, Geometrical Skill, as one observes, is rightly employed about Bones and Muscles, and other solid Parts of the Animal Frame, which more eminently belong to the Surgeon's Province; but it cannot be so useful to a Physician, whose principal, tho' not entire Business respects fluid Bodies.

But then whoever is ignorant of the modern Discoveries in Anatomy and Chymistry, will be very uncertain in his Proceedings, and incapable of understanding the

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the true Force of such Observations, on the Knowledge of which he so much depends: But a Theory founded on such Principles, is not subject to the precarious Fate of Hypotheses, but will continue as lasting and useful as the Observations of *Hippocrates*: Those Hypotheses have gained the greatest Applause which were most curiously wrought; but as their Beauty consisted in the elaborate Imitation of the nice Texture of a Cobweb, so their Duration was equally uncertain and precarious. *

A clear Simplicity is the surest Taste of Truth, and whoever considers the great Uniformity that is to be observed in the several Parts of a Human Body, and the strict Analogy that is kept up between the greater and lesser Parts, will find that the immediate Causes of Diseases are more simple and plain than they are generally supposed to be, and that their great Difference, and Variety of Symptoms are chiefly owing to their different Situation. How easy is it to account for a light Boil, or Inflammation in the Hand? How few Symptoms are thence produced? But how greatly is the Scene altered, if the same immediate Cause produces such an Inflammation in the *Pleura* or Lungs? And its Termination into an Abscess, which gives Relief in the

* Dr. BARRY.

former

former Case, is in the latter, attended with a various Train of Symptoms, and most frequently ends in Death. An *Hæmorrhagia Narium* often proceeds from the same immediate Cause, as a fatal Apoplexy. The different Consequence is owing to their different Situation; for in one, the Blood from the ruptur'd Vessel has a free Discharge; in the other, it lodges on, and presses the nervous Tubes, whose free and open Action is necessary to continue Life in a human Body. The great Art of a Physician consists in forming a just Notion of the Cause, and Seat of a Distemper; and when the Indications of Cure are deduced from such certain and evident Principles, 'tis an easy Matter, by the Use of few, and frequently plain Medicines, to carry it off. †

This Assertion is not only agreeable to the strictest Reasoning, but is confirmed by Experience; since the most happy Practitioners have been always remarkable for the Simplicity of their Medicines, while such who endeavour to explain Distempers from complex, and unmechanical Causes, such as Effervescencies, Precipitations, *Alkali's* engaging Acids, and use as wild a Farrago of Medicines, are as remarkable for their ill Success.

† Dr. BARRY.

C

Nature

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Nature (which *Hippocrates* calls *Morbosum Medicatrix*) generally points out a Method of Cure in most Distempers ; for such is the wise Contrivance of a human Body, that whenever any Part is oppressed, the whole Oeconomy is engaged in endeavouring to correct, or evacuate whatever is the Cause of the Disease : And the Effects, or Symptoms which are thence produced are often to be regarded as natural Remedies, not as an Enemy, or Disease : The great Knowledge of a Physician consists in justly distinguishing when such Symptoms are to be suppressed, and when encouraged ; for it is much more easy to check any Symptoms, (in which generally the chief Skill of Empiricks is employ'd) than rationally to conceive from what natural Motions in the human System they are produced, and how far they contribute to its Relief or Prejudice. Sometimes the Force of such salutary Efforts is too violent, or misguided ; in which Case it is the Business of a prudent Physician to restrain, or direct them to another Course : Sometimes they are so faint, and languid, as to prove ineffectual, unless quickened, and invigorated. The great Difficulty consists in a prudent Direction of the Symptoms of a Distemper, which, if rightly managed, is often best conquered by its own Weapons.

The

The Practice of Physick, says the same Author, is become too much a Trade. A fullen Grimace, or an artful Address, with an unintelligible Way of talking suited to the common Vogue, often supply the Place of true Merit, and gain the Preference. As few, very few indeed, are Judges of this Science, 'tis an easy Matter by such a Behaviour to gain the Character of a Physician; but nothing requires more Skill and Labour than justly to deserve it. Such a one cannot carelessly apply a Receipt to the Name of a Disease, but from a sufficient Knowledge of the Structure of a human Body, the Use of the several Parts, and from an exact History of the natural Progress of Diseases, endeavours to deduce a right Method of Cure, suited to the various Exigencies and Constitution of the Patient. *

We are to follow Nature as much as possible; *i. e.* if Nature expels a diseased Humour by Vomiting, we are to help Nature by promoting that Discharge, provided we apprehend no Inconveniency from it. If that Humour falls upon the lower Bowels, we are to use Purgatives: If the Humour attempts to make its Passage by the Skin, we are to assist it by Sweats, Perspiration, &c. But if the Humour issues at an improper Vent, we are to turn the Cur-

* Dr. BARRY.

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rent, and carry it off at one more convenient. If a Vein bursts in the Lungs, we must not encourage that Discharge, but open a Vein in some other Part of the Body, or alter, or stop its Course by some other Means, by reason the Lungs are a very improper and dangerous Part for such a Vent.

* Nature is very often the sole Determiner of acute Diseases, is a constant Guide to the judicious Professor, who by his Skill, assists, and directs all her Efforts and Endeavours to a sudden and perfect Cure.

'Tis observ'd, that Necessity gave Being to Physick; but Experience that brought it to Perfection: In its Infancy it was gross, and stupid; yet in Progress of Time, by the Accession of new Observations mutually illustrating each other, and especially by the Light of Reason, guiding, and over-ruling all, it became a liberal, and learned Art.

However, we must acknowledge God to be the Foundation of all our Wisdom and Skill; and upon whose Blessing the good Success of all our Studies depends: From hence 'tis observ'd, that those different, and even contradictory Opinions of the Learned in all Ages, on one and the same Subject, nay, of the same Persons, at different Times, proceed: So that the Patient must still own his Cure to the Divine As-

* J. WYNTER, M. B.

sistance,

sistance, amidst the best Advice and ablest Consult of Physicians ; and whatever Benefit he receives from them, comes from God at second Hand : For, as 'tis in Spirituals, *Paul* may plant, &c. so, the Physician may prescribe, and the Apothecary honestly and carefully make up the Medicines ; and the Patient likewise be very strict in observing Rules ; yet unless God co-operates, all will be in vain.

We are told, by a very learned and excellent Divine, * at what Door our Languishings and bodily Indispositions are of right to be laid ; and that not bodily Death only, but all the Decays of Nature, all the Pains and Sufferings which afflict us, while in this Body, were originally introduced by Sin : How the Divine Wisdom hath order'd that Health, and Strength, and long Life, should be the natural Consequences, no less than providential Encouragements and Rewards, of Vertue ; and Diseases, and a more speedy Dissolution, the ordinary Effects of a vicious Course.

And however some, who carry their Thoughts but a little Way, may content themselves with ascribing such Alterations to common Accidents and natural Causes ; yet our excellent Church (according to the usual Wisdom conspicuous in all her Offices)

* Dr. STANHOPE.

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hath the truest Reason in appointing her Ministers to go to the Bottom of this Matter. For it is certainly of the last Importance, that every sick Person should be put in mind, that Almighty God is the Lord of Life and Death, and of all the Things to them pertaining, as Youth, Health, Strength, Age, Weakness, and Sickness; wherefore whatsoever your Sickness at any time is, know ye certainly that it is God's Visitation: (Consider this, you bold, presumptive Inoculators!) And this would convince Men of the Absurdity, the Wickedness of a preposterous Method, too much in Use among our People; who generally begin their Remedies at the wrong End, and are in no Care to call in the Physician of the Soul, till the Bodily Physicians have given them over. How much a juster Notion had the Wise Son of *Sirach*? *Ecclus.* xxxviii. 9, &c. where is most excellent and seasonable Advice, and strictly Methodical.

And I take the Wise Man here to have left us a good Hint for making Choice of such Physicians, who are likely to profit us by their Prayers, as well as by their Prescriptions; (*ver.* 14.) For sure it argues too little Sense the Hand God hath in all Events of this Kind, when we lay our Lives at the Mercy of impious Wretches, who do not only seem to have no Reverence for, or Regard to, God, but live in open Contempt and

and Defiance of his Majesty, and are much more like to draw down a Curse by their Prophaneness and Irreligion, than to give us any reasonable Prospect of a Blessing upon their Undertakings.

And, indeed, as one observes, it can hardly consist with God Almighty's Tenderness and Compassion to his Creatures to leave Mankind languishing, and pining away in their Diseases, when all human Means fail, (as they often do in some stubborn Distempers, which baffle the Force of all Medicines, and the Physician's Skill); without some more than ordinary Assistance from above to free them from their Misery: And this Assistance he most visibly affords in those Distempers call'd *Epidemical*, that rise upon us like a Flood, sweeping away Thousands, Patient and Physician together; and after having reign'd long uncontroll'd, are at last stopp'd in their full Course, and made to sink away as strangely as they rose at first; which we must needs therefore attribute to an Almighty Power, both in the bringing and taking away.

And as the pious Bishop *Ken* recommends to the Patient, Repentance, Prayer, and Sacrifice; the Sacrifice of Alms, by which he will offer to God a sweet Savour: So to the Physician he recommends devout Prayer to the Author of Health, and Sicknes, that his Physick may prosper: and then is Phy-

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sick like to procure a Blessing, when both the Patient and the Physician join in their Prayers for it.

But to return. 'Tis worth Observation, * That what affects the Stomach, influences the whole Animal more than the Sensation of any other Part, because of the considerable Stay that Things make there ; and therefore, according to the Practice of the best Physicians, the pleasing the Stomach (both in Acute and Chronical Distempers) is one of the greatest Things to be regarded in the Medicinal Art, to comfort, satisfy, or compose the Spirits ; by which Means I have often perform'd such Cures, that neither I, nor (I suppose) any other, could otherwise perform ; namely, Dejections of Appetite, Untowardness of Stomach, &c. when all the ordinary and usual Means have failed ; by asking them, what they most desired or longed for, and letting them have it ; or if they could not tell of any thing that they long'd for, I have mention'd to them all the relishing Things I could think of, and such as were grateful to the Stomach, till they fasten'd upon somewhat that they lik'd or fancy'd ; and then being given them, it generally had the desired Success.

And indeed we should have a great Regard for the Stomach : Hence it is, that if

* Dr. JONES.

we could any way half relax the vigilative Contraction while we labour, take a Journey, or the like, by drinking a good Glass of generous Wine every half Hour, and so often as to continue the Sense of its Pleasure at Stomach, we might perform prodigiously without being fir'd; for 'tis a vulgar Error, (tho' the universal Sentiment of Mankind, both learned and unlearned) that Wine, Cordials, &c. do comfort, elevate, and excite the Spirits, (as 'tis call'd) by adding the Spirits to, or joining them with ours; whereas in reality, 'tis only by causing a pleasant Sensation, particularly at the Stomach. Hence it is, that all Cordials must be pleasing to the Stomach, or else they are no Cordials; and it matters not whether what we take have Spirits or no, so it causes a pleasant Sensation; for a Draught of Small-beer or Water in a high Fever, and when we are very faint with Thirst, very much comforts us without any Spirits.

And as a Cordial is allow'd by all, to be a Medicine comforting the Spirits; so our Spirits being separated from the Blood, they will, in some measure, partake of its Nature; as is obvious in Fevers, where the Blood being disorder'd, the Spirits soon become so too, as appears by the Symptoms that are proper to them: And then as they may be differently altered, it is clear they
may

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may require very different Medicines to be comforted or refreshed by.

And this appears abundantly evident in Hysterical Cases, in which sometimes the most offensive Things are then Cordials; that is, their Spirits are really refresh'd by such Things as will disorder others. In short, there can be no universal Cordial (or any other Medicine) but Things will be so as they are apply'd: (For as Elocution is in Oratory, so Application is in Physick). Which, that it may not appear as a bold Assertion, I will farther illustrate it by a notorious Instance; Wine, and most spirituous and inflammable Liquors are generally esteem'd Cordials, and are really so to most in Health, their Spirits being comforted, cheared, and refreshed by them; and yet it is plain, there is a Time when they are none; for they are so far from being Cordial to Men fatiated with such Liquors, that the more they are taken, the more their Spirits are oppressed, their Understandings confounded, their Stomach loathed, and their Strength destroyed: So that it is clear, they are then to such no Cordials.

And as the Spirits are observ'd to be recruited by *Aromaticks* and *Fætidæ*, (such as *Costmary*) we conclude, the Particles these contain to be similar in their Nature to our Animal Spirits circulating in the Nerves. It is no longer a Doubt, that the Nerves are hollow,

hollow, since inflating the Optick Nerve shews its Structure to be porous, like a Cane, even to the naked Eye.

And if Cordials are only such Things as refresh, and comfort, it is plain, when we are stifled with Heat, and almost consumed with Flames, such Things as increase that, and nourish such, can then be no Cordials, and yet few Things are esteemed Cordials but what will do that; and if such Medicines in such Cases must be thought Cordials, I am apprehensive they may be sometimes experienced to be fatal ones: For most assuredly then the best Cordial is to deliver the Spirits from their Oppression; which is not to be done by adding Fuel to the Fire, that is, by increasing the Heat: And Small-Beer, Barley-Water, or such innocent and inoffensive Liquors will be often found more refreshing than all the pompous Processes, or chargeable Compositions of Pearl Cordials or Spirituous Juleps.

Having mentioned Cordials, as refreshing and comforting the Spirits, *viz.* the Animal Spirits, as they are now called; I can't but observe, that there have great Disputes arisen among Anatomists, about the Nature of them, and the Matter whence they are form'd; tho' (as my ingenious Friend observes) * the Existence of them has not yet

* Dr. DRAKE.

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been demonstratively prov'd. It is hard to define what could never yet be brought under the Judgment of our Senses; so that every Man is at Liberty to entertain what Notions he pleases concerning them, of which some have been extravagant enough. All that we shall offer concerning them, (if they have a real Existence) is, that they must needs be extream subtile Bodies, which escape all manner of Examination by the Senses, tho' never so well assisted, and pervade the Tracts of the Nerves, which yet have no discoverable Cavity or Perforation, nor could ever by any Experiment be collected, yet are constantly moving in vast Quantities, as they must of necessity be, to perform all those mighty Operations which are ascribed to them: By their Help we are supply'd with a vast Number of precarious Solutions of great *Phænomena*; and without them we must have a great Chasm in the Philosophical History of Animal Bodies. They are suppos'd to be separated in the Brain from the subtilest Parts of the Blood, and from thence to be carry'd by the Nerves to all Parts of the Body, for the Performance of all Animal and Vital Functions.

A learned Physician * declares, That he has a long time suspected the Reasonings of

* Dr. CHEYNE's Essay on the Gout.

Physicians, and the Accounts given by them of the Nature of Diseases, that were founded on nervous Juices and Fluids; their Motion, Nature, and Qualities: And yet it will be a great Baulk on the Theory of Diseases, the boasted Politeness, and the admir'd Fineness of the present Age has advanc'd, should there really be no such Fluids in Animal Bodies. Certain it is, the Ligature on the great Trunks and Bundles of Nerves shew no such thing: Let it continue ever so long, there appears no Swelling above towards their Origin; and let them be squeez'd, or milk'd ever so long downwards to the Ligature, yet no Tumor appears. The contrary of which happens to the Arteries and Veins in the like Circumstances, but on the opposite Side of the Ligature; and must happen to the Nerves, was any sensible Fluid contained in them: Moreover, if we consider the Make and Configuration the best Microscopes give of nervous Fibres, we shall find them neither fill'd with any Juice, nor pervious to receive any: For that milky Substance we observe about them, seems design'd by Nature to preserve them moist, and glib, for their mechanical Functions of Elasticity, and is by far too gross to answer the Ends of Animal Spirits.

But as to this subtile Fluid that passes through the Conduits of the Nerves, as a
good

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good Author † observes; since it escapes our Eyes, and that we are not able to discern it by the Help of the best Microscopes, we may well think, that 'tis compos'd of the most subtile and volatile Parts of the Blood, and is so exceeding minute as to be imperceptible; yet, if we will but attend to the stupendous Effects, and admirable Operations of these Animal Spirits, as they are the Instruments of Sensation, and organical Motion, we can no more doubt of their Existency, than of that of grosser and sensible Beings: For should we always doubt where we cannot immediately perceive, we may suspect every thing in Nature; the very Generation, Nutrition, Alteration, and Corruption of every particular Substance, as likewise their Powers, Efficacies, and Operations upon other Bodies; for all these are perform'd in such a manner, and by so minute Instruments, as are not to be discover'd by our gross Faculties; all that we can discern is, that such Things are done, but of the manner of doing them we are in perfect Ignorance; and we are as far assur'd those wonderful Operations of Sensation and organical Motions, are, by the Means of these Spirits, performed within us, as we can be of any other Effects from grosser Bodies. For what can be more certain than

† Dr. PAXTON's Essay.

that

that the Mind perceives by the Help of these outward Existences operating upon the Senses ; and likewise, that by these the guides, and governs the Motions in the organical Parts ? By reason, intercept but their Passage in the Nerve, and all Communication between that Part and the Brain, the usual Residence of the Mind, is lost.

Life, so far as its Nature can be known to us, consists chiefly in the progressive Motion of the Fluids, and seems clearly to move in a Circle : For the Vibration of the Heart depends upon an Influx of Spirits from the Brain, by which the Blood is circulated ; and the Brain separates from the Blood these very Spirits that thus actuate and move the Heart : So that by the Motion of the Heart and Vessels, the Blood is circulated ; and by the Means of the circulated Blood, (*i. e.*) the Spirits that are separated from it, the Heart and Vessels are moved : And the circulatory Motion of the Blood being made, and continued by the Heart and Vessels ; and these being kept, and continued in Motion by the Spirits, it is evident the Motion of the Blood will be as the Spirits, or their Influx are : They therefore being altered, depraved, or vitiated, the Motions proceeding from them must become so too. And these Spirits being only noble Separations made from the Blood by
the

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the Means of the Brain, which appears to be a Heap of Secretory Vessels, which are only passive in that Performance, it is plain these Spirits will be as the Blood is, (unless somewhat external sollicitates them into Disorders). And this is confirm'd by Fact, the Pulse altering as the Blood does, as may be readily discerned by its Changes. And this is not only true of the Spirits that are the Instruments of involuntary, or vital Motions; which being separated in a Province of the Brain distinct (as Anatomy seems to evince) from that in which those Spirits are, that are voluntary, and under the Dominion of the Mind; but also of such as are subservient to the Mind, as is notorious in what we call Fevers, where the Spirits become so depraved and altered as to become unfit for their regular, natural, and ordinary Offices, Functions, or Uses; hence they become moulded into unusual Shapes, and come to represent Things disorderly, confusedly, imperfectly, unnaturally, and differently, as may be observ'd from what happens in those Cases, we call *Phrenses*, *Deliriums*, *Convulsions*, *Epilepsies*, *Palsies*, &c.

But sometimes the Cause of preternatural Affections of the Spirits, may be external to the Spirits or Nerves, as containing them; it may be local, *i. e.* in a Part, altho' the Effect may be universal; as in the Case of Apoplexies,

Apoplexies, Lethargies, and such like ; which Dissections (from whence we may learn the Causes of many Distempers) shew us, have been occasioned by some extravasated Blood, or collected Juice, or Matter about the Brain : And in such Cases, which is very observable, the Pulse is commonly slow, and perhaps strong, and the Breathing deep, perhaps with Stertor. Whereas if Loss of Sense, and voluntary Motion, is from some Confusion, Hurry, Disorder, or Oppression of Spirits, which is also frequently termed Apoplectical, but which usually differs from the former, in that the Pulse is small, unequal, and perplexed ; there is not in such an equal Danger, such Fits usually wearing off. And this Observation may clearly direct us, that different Methods are to be pursued, in such Cases, altho' both of them are comprehended under the dreadful Name of *Apoplexies*.

It is further to be observed, that such preternatural Affections of the Spirits, that are thus created by a Cause external to them, usually continue until the Cause be removed ; not but that such consisting in Fits, that is, in tumultuous Motions, must have their Degrees, and Intermissions, but cannot recover their former orderly State : Whereas such that arise from some unlike or heterogeneous Parts passing into the Nerves, or from some internal Cause, and

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so tumultuate, and create Fits, have often great Intermissions, the Diseased being, in all Appearance, well for a considerable time, and then returns : But such are, for the most part, vague and uncertain ; and these Fits are usually distinguish'd into several Kinds, according to the Parts they begin in, or principally affect. And, which is very remarkable, such as begin in any of the voluntary or muscular Motion, are seldom preceded or attended with any visible Alterations in the Separations or Motions of the Blood ; and such are for the most part found of most difficult Cure ; the Reason, perhaps, as having nothing to guide or direct us in it. But if they begin in any of the vital, or involuntary Motions, that is, in some Part of the Trunk of the Body, they may be frequently observed to be accompany'd with some Fault in the Separations, and so the easier remedied.

A Mathematical Physician well observes * That we are assur'd there is such a Fluid, as we call *Animal Spirits* running in the Nerves ; for seeing all Sensation is perform'd by the Nerves, it must be done either by the Substance of the Nerve, or the Fluid which is contained in the Nerve. If by the Substance of the Nerve, it must be by a Vibration from the Part upon which

* Dr. JAMES KEILL's Anatomy.

the Impression is made to the Brain. Now that there can be no Vibration from the Impression of external Objects upon Animal Nerves, which are slack, and surrounded all along by other Bodies, is evident; and therefore Sensation must be performed by the Fluid of the Nerves.

The Motion of this Fluid is not swift, and rapid, as is generally supposed, but slow, and languid, seeing all its Motion proceeds from the Dilatation of the Arteries compressing the soft Substance of the Nerves, and from the Force of which it is thrust thro' the Glands of the Brain. And when the Nerves are full of this fine Fluid, the Impressions of Objects may be communicated to the Brain without any quick Motion in the Animal Spirits, either by retarding or stopping their progressive Motion, or by causing an Undulation. If to these we add, that the Animal Spirits must be confined within their own proper Channels, as well as the other Fluids of the Body, we shall easily perceive how precarious the many Hypotheses are, which the Learned Dr. *Willis* has elegantly described in his System of the Nerves, and Nervous Distempers.

Tho' the Nature of this Liquor is not yet known, yet some are inclined to think, that the volatile *Alkali* prevails in it, with an extremely volatile Sulphur. The Reason is,

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because all volatile *Alkali's* taken inwardly, do increase the Animal Spirits ; the volatile Sulphurs do almost the same thing, and there is nothing which does so much increase their Quantity, as sulphureous volatile *Alkali* aromatiz'd are ; such as the best *Sal. Vol. Oleos. &c.*

And as these Animal Spirits are separated from the Blood, by the Glands of the Brain ; so according to the latest Observations, there are near thirty several Liquors separated from the Blood ; all which is owing to the various Structure of the Glands : some of which are so small, and so variously wound up, and their Vessels drawn out into such an extraordinary Length, that nothing but the most minute and spirituous Particles of the Blood can pass thro' them ; and doubtless, of such a Structure is the Cortical Part of the Brain, by which the Animal Spirits are discern'd ; others are wide, and chiefly separate Excrements, &c. The Figure therefore and Structure of the Glands must be determin'd, whereby the Manner the several Fluids, after they are form'd in the Blood, are separated from it by the Glands. As Truth, when plain and evident, does of itself dispel all false Opinions, so the true Structure of the Glands being once demonstrated, there will be no Occasion to refute the Doctrine of Ferments, nor the Hypothesis of Tubes differing as to the
Figures

Figures of their Orifices, both which have several times been demonstrated to be false*.

And here it may not be amiss to take Notice of the Observation of an anonymous Author, That Secretions retain'd do always produce strange Commotions within us : Let us take a View of Persons under a Retention of Urine ; How thirsty do they grow ; how do they loath every Thing ; how giddy, how convuls'd, and how urinous do they smell ? In Suppressions of the Menstrual-Flux, what Pains, what Bleedings from other Parts, what Eruptions, what Fevers, what Faintness, what Difficulties of Breathing, what Hysteric Symptoms do they not labour under ? In an Obstruction of the Gall into the Guts, what Fluxes, what Vomitings, what Inflations, and how many other Symptoms do they struggle under ? Nay, by a preternatural, but customary Secretion of *Lympha* into the Lungs in Asthmatick Persons, how smoothly do they spin out their Days, whilst they spit up their Phlegm with Ease, and in large Quantities ? But on the contrary, how hardly do they fare in Frosty or Foggy Weather ? They fall into Inflammations, and choaking Catarrhs, as all know : In such changeable Weather therefore, as we have in

* Dr. KEILL of Animal Secretion.

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England, travelling from Summer to Winter, and from Spring to Autumn, in less than the Space of a natural Day; 'tis no Wonder that our Pores and Juices must be eminently alter'd, and that we must be unavoidably seiz'd with Diseases.

Let us receive Truth in its genuine Form, and not indulge our selves in vain Hypotheses, instead of solid Reasoning; and distinguish well between real Argument and quaint Conceit: And let it be remembered that Truth is simple and naked, but Falshood clothes itself in several Shapes, and disguises itself in divers Colours; it must be made gay and pompous to deceive: Truth hath a native Beauty which sets her off, and commends her; but too much adorning and trimming her, detracts from her Comeliness, yea, sometimes leads her to the Confines of Error. How often are these Hypotheses, these Dreams, these Phantoms imbrac'd as Truths, witness the Writings of most of our late Authors: But we should scorn and laugh at those Castles in the Air, those Opinions which have no other Bottom but an airy Fancy, and are founded only by the subtile Artifice of a daring Imagination.

Some affect an obscure Way of writing: § But those Writings are always look'd upon

§ *As* Dan. Ludovicus de Pharm. Modern. secul. accon. Paracelsus, Helmont, &c.

as best, which are most intelligible, because they have the greatest Tendency to Truth ; which is a Thing that is to be understood, especially in laying the Foundations and Principles of the Art of Physick, there must be great Care taken that all ambiguous Terms be avoided : But these Patriarchs of the Spagyrick Art, have given us a Taste of their unintelligible Jargon and refin'd Nonsense. As these Alchymists are wont to dissolve Metals by Art, and to extract thence their Quintessences ; so they have a Way too, it seems, to extract Notions ; and these are generally so fine and volatile, that they escape our Apprehensions. All their Conceptions in Physick are pure *Arcanum's* ; mystical Terms, and ambiguous Phrases are their Delight. These obscure, dark Writers, like the Cuttle-Fish, love to hide themselves in their own Ink. These sooty Chymists speak as darkly and obscurely as if their Brains were affected with the Smoak of their Furnaces and Laboratories. They study to be confus'd ; they fill up their Books, as *Moses* began his, with a Chaos. It is as hard for us to find their Meaning, (saith' the Honourable Mr. *Boyle*, who understood their Way well enough) as it is with them to find their Elixir. If you ask the Reason of this Mysteriousness, they will tell you, that this is done on purpose that they may be admired

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by their Readers, and that their Art may appear more venerable. It seems they are content to expose themselves to the Contempt of the Learned and Wise, to purchase the Admiration of the Ignorant; or, others say it is to conceal their inestimable Knowledge from the Vulgar, for their Notions are too precious to be explain'd to such. Hence they use an ambiguous and ænigmatical Way of writing, that so they may not be understood by any but the *Adepti* and Sons of Art, as they call them. This they pretend is the Reason why, like Conjurers, they use hard Words, and why they all espouse that celebrated Saying, * *Where we speak plain, we had as good as say nothing.*

One Cause of Error, and Hindrance of Truth in Physick, is the fruitless Disputes, and shameful Dissentions among Physicians. Those who are most averse to Truth, are most disputative, and fallacious. Error is brawling, and gains unspeakably by Contests and Bickerings: For Men by their Controversies and Tossings, raise such a Dust, that 'tis hard to discern Truth: Their Eyes are almost put out by it; yea, such a thick Dust is sometimes rais'd, that Truth is bury'd and lost in it. If you would then purchase Truth in this noble Science, check the cavilling Spirit, restrain the Itch of Disputing.

* Ubi palam locuti sumus, ibi nihil diximus.

Another

Another Cause of Error is this, Men fly into Extremes, and will not keep the Medium where Truth is seated ; and thence it is they are plung'd into Mistakes ; for Truth as well as Virtue, hath a middle Station. One cries up *Alkali's*, another *Acids* for the Cure of all Diseases. One is for administering such hot *Alexipharmicks* in the Small-Pox, as burns up his Patients ; or if they escape, it is *ὡς διὰ πυρὸς*. Whilst another starves them with the too cold Regimen. The learned *Baglivi* observes, That Diureticks are, generally speaking, the best Remedies in Distempers of the Breasts ; *Rejectis tamen*, says he, *diureticis acidis, quæ noxia, & infida, pulmonemq; erodentia, ac sanguinem in eo figentia, ut experientiâ constat* : Whereas *Barbett* says, *Hoc saltem addo, me contra omnium fortè scriptorum practitorum sententiam acidis temperatis felicissimè usum in Phthisi*. And I am apt to believe the *Italian* Doctor, who had a just Esteem for the great *Hippocrates*, run into that Opinion from an Observation of his, *Acida sunt pectori inimica*. But this Precept, 'tis thought, has a Regard only to such acid Particles as are inspired into the Lungs with the Air ; such as the *Effluvia* of *Arsenick*, *Mercury*, *Sulphur*, &c. which are certainly most destructive ; for no Medicines were so much used by *Hippocrates* in internal Disorders of the Lungs, as Preparations of Milk, and his beloved *Oxymel*.

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Oxymel. I could fill a Volume by mentioning the contradictory Opinions of Physicians in Theory and Practice ; 'twas so of old, as well as in our Age, amongst the Philosophers : As for instance, of old there were some Philosophers that attributed Rationality to Brutes : The *Pythagoreans* generally were of this Opinion ; and *Plutarch*, and some others have endeavour'd to shew how accountable it was ; but none hath said so much, or spoken so wittily in Defence of it as *Porphyrus* †. It is certain, this was a high Extreme ; but behold, how some have endeavour'd to baffle it by another ! They are so far from holding Brutes to have Reason, that they will not allow them to be endued with any Sense, nay indeed not with Life, for Life and Sensation go together. *Des Cartes*, *Gassendus*, *Willis*, declare those Animals to be mere Machines, or *Automata*, Matter and Motion, Pores and Particles, and the adapting of one to the other do all ; but Matter hath no Sensation, or Vitality, all their Motion and Action are from without, and depend on Objects. Nay, this Mechanism extends not only to Brutes, but to Men, that is, as to all Operations but Cogitation. This is the Result of an Extreme opposing the other Opinion of Brutes being rational. And this Extreme

† De Abstinēt.

is as erroneous and false as the other, and is attended with as many ill Consequences. The piercing Minds of those great Men could not but perceive that there is a great Difference between a single Operation in some Part of the Body (as the Brains elaborating of Spirits ; the Heart's making of Blood ; the Stomach's concocting, &c.) and that vast Multiplicity of Operations (and those exceeding different and heterogeneous) which accompanies the Generation, or Formation of the Whole ; and yet they hold, that all is the Work of Mechanism ; the Formation of the Brute is mechanical, as well as its Actions after it is form'd. But then it is plain, according to this Principle, that the Formation of a Man may be so too ; and 'tis confess'd, that there was no Soul to actuate the Matter, and therefore a Man (as well as Beast) is of mechanick Original. The shaping and forming of all his Parts have no higher Principle than mechanick Motion. I ask then, Why is Man's Structure accounted an Argument of God's Existence, Power, and Wisdom ; and that by some *Cartesians*, who allow the Formation of Man to be from a Divine and Supernatural Cause, and endeavour to prove it ? If the Brutish Embryo springs mechanically from out of the Seed, why not the Human ? I see no Reason of Difference. And how this will gratify the Atheists, who think the Production

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duction of Mankind, and all other Animals is alike, and is not owing to a Divine Principle, may be easily conceiv'd. Again, Why may not human Bodies be merely mechanical in all their Motions and Actions, after Formation as well as Brutes? There is no Reason against it; for, if they can perform all Feats, and exert all Functions of themselves, why should we attribute them to the Soul? And so by this Means the Soul is excluded; or rather hence it is proved, that there is no Soul in Man distinct from his Body. Thus *Des Cartes*, and his Followers, whilst they strip Brutes of all Sense, deprive Man also of Reason, and a rational Soul.

But there is a Medium between these Extremes, and it is this; That Brute Creatures have Souls, such as they are, *viz.* sensitive ones. Whether they are annihilated at the Death of these Animals, or yet remain, is not known to us; and that should not trouble us. But this we are sure of, that it is not in the Power of Matter to do what Brutes do; their Actions can't be perform'd by mere Mechanism; especially, Matter produce the great Work of Generation and Formation. Therefore we must conclude that they have a Principle that is more than material; tho' they have no Reason, or Will, properly so call'd, yet they have some Shadow of them; they have a sort of inferior

ferior Souls, such as God thought good to bestow upon them.

In short, if you are Lovers of Truth, avoid Extremes, take the middle Way, and then you are safe, sail between the dangerous Rocks on both Hands. This alone will be sufficient to help and guide you in finding Truth, not only in Physick, but in every thing else.

As to Physick, as long as I can remember, there has scarce been any Man of the Faculty, of pregnant Parts, and an exuberant Fancy, but what has form'd to himself some new Notion or Notions, thereby pretending to solve all Phœnomena of Diseases; in the mean time neglecting the true Histories of Diseases, and the nice Observation of the *Juvantia* and *Lædantia*, the almost only Clews for leading us safely thro' so intricate a Labyrinth.

For Diseases are stubborn Things, and won't give way to Methods barely recommended by Suppositions, how plausible soever; but by those found out by sound Reasonings, and accurate Observations: For in one Case (as one observes) we follow the Dictates of Nature, which tho' sometimes not over clear, yet seldom fail of affording some real Light; whereas in the other we generally, notwithstanding all the specious Pretences to having our Eyes extraordinarily enlighten'd, run blindfold we
know

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know not whether : and if by Accident we sometimes hit the Mark, it is rather owing to Fortune, than to any considerable Degree of Art or Skill in *Praxis*.

One admired Notion, or Hypothesis taken up, diffuses itself thro' all the rest. *Barbette* solves the Nature of all Diseases by a thick and sharp *Lympha*. *Ramsy* makes Worms the Cause of most Distempers in the Body. And others attribute the most frequent Maladies and Pains to a *Flatus*, or Wind. And we shall find that the Particles of alkalifate or fix'd Salt, and of acid or volatile Salt in the Body, solve all Diseases, yea all *Phænomena* in Physick, with a very learned Doctor. But Truth is not to be discern'd and judg'd of by the Persons that propound it, but Truth is known to be Truth from itself alone.

Another Cause of Error in Physick, is Prejudice, arising from Education, &c. Strong Prejudices settled in the Minds of Men are a great Cause of Mistakes in Theory and Practice: Whatever we are bred up with is sweet ; we are much delighted with those Notions Education hath commended to us ; we dote on our domestick Impressions, and will not entertain any Apprehensions concerning Foreign Discoveries: As Dogs fawn on Domesticks, but bark at Strangers, so we are averse to the Notions we are not used to, and shew our
selves

selves very fierce against them ; but are very indulgent to our Home-bred Errors, and entertain them with great Delight and Blandishment : And what is worst of all, when we are bias'd by the Prejudices of Education, we not only run Headlong into fatal Mistakes, but remain in them almost without Remedy : For when false Notions are instill'd into us in our Minority, and when we are also in the Non-age of our Judgments, it is a difficult Task to remove and eradicate them, and to correct the Errors of that first and early Concoction : For those Notions grow up with us, and become Part of us, and are turn'd into our very Temper and Constitution.

'Tis thus in Divinity, as well as Physick : For a late Prelate * thought, that Revealed Truth was not so certain as Natural Truth. ' The natural Knowledge which Men have ' of God (says he) when all is done, is the ' surest and safest Hold that Religion hath ' on human Nature'. Say and pretend what you will, Natural Light and Reason are the best and surest Tenure that Christianity itself (for he speaks of all Religion in the Words immediately foregoing) holds by. So he is at this again, in his VIIth Sermon on *Jam. i. 13, 14.* ' Every Man ought to ' govern himself, in the Interpretation of

* Bishop TILLOTSON.

' Scripture,

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‘ Scripture, by those Natural Notions which
 ‘ Men have of God and his Perfections’ :
 For when all is done, this is one of the surest
 Ways of reasoning in Religion. And not
 with any Disparagement to the vast Learning
 of our Reverend Annotator on the *New*
Testament, † I might observe, that he inter-
 prets many Places according to the Standard
 of some Notions which he had a particular
 Kindness for. These beloved Conceits are
 urg’d on all Occasions by him, and his In-
 terpretations and Comments are tinctur’d
 every where with them. He is always, in
 the Epistles, referring to the *Gnosticks*, and
 their filthy and unnatural Practices ; and he
 makes some Texts speak of them as actually
 in being before there were any such Here-
 ticks. For if you will credit some Authors,
 they arose not till the Reign of *M. Aurelius*
Antoninus, which was about a hundred and
 thirty Years after *Christ’s* Passion ; and
 therefore Dr. *Cave* entitles the second Age,
 the *Gnostick* Age.

I shall mention but one Cause more of
 Error in the noble Art of Physick, and that
 is Slothfulness and Negligence in searching
 after Truth. It is the Sentiment of the In-
 genious *French* Philosopher, That the Fa-
 culty of right Understanding and Judging
 is as equally and impartially distributed

† Dr. HAMMOND.

among

among Men, as any thing whatsoever in the whole World; and that the Diversity of Opinions is not because some Men are more reasonable than others, but only because Men do not apply their Faculties alike, and do not direct their Thoughts the same Way: Therefore (as he adds) here lieth our Happiness to light on the best Methods, and to choose the right Way that leads to Truth.

Now in order to this, there is need of singular Care, Diligence, and Circumspection. Here, indeed, all our Care and Industry must be employ'd: For Truth lieth in a deep Pit, as *Democritus* rightly said. If we would find it, we must search to the Bottom of it, we must cast off all Sloth and Idleness, and approve ourselves to be very active, stirring Persons; every drowzy Inquirer cannot reach, and fathom it: It is Industry in thinking and considering, in examining and trying that must help us to the Purchase of it. We must be cautious how we receive Notices into our Minds at first. Error is easily introduced before we are aware. It will gain Admittance and Entertainment in our Judgments on a sudden, if we be not very circumspect. It is certain, that the Temerity of Man's Mind is the Cause of most of the Errors he is incident to. He is forward and eager to take in Notions when they are propounded to him, and he receiveth them at a Venture.

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Men commonly miss of Truth by being superficial, and looking no farther than the Things that are just before them. Their Brains, like those of most Insects, (as a modern Philosopher observes, lie in their Eyes. They understand no more than what they barely see: They go no farther than their Sense, and will not be persuaded to make use of the piercing Eye of Reason. But if you enquire after Truth in good Earnest, you must be industrious in amassing together all the right and unprejudiced Apprehensions of Things that you are able: If you desire to understand aright, you must make frequent Reflections on Objects: You must behold them in their several Situations and Postures, and by that Means you will distinctly discern what they are. *Clara & distincta perceptio*, (says *Des Cartes*) *est Criterion Veritatis*. Deal with great Caution and Circumspection; have a Care what you do. You may easily mistake; you may entertain idle and trifling Speculations, fond and imaginary Hypotheses for substantial Truth. Look about you, for there are many Cheats and Counterfeits. Be so incredulous as not to believe all to be Truth; make a right use of your Reason. My Lord *Verulam* hath well observ'd, That there is in the common Way of delivering of Sciences a kind of Contract of Error between the Deliverer and the Receiver; for the former labours

labours to dictate those Things which may most easily be believed, and the latter is greedy of present Satisfaction, and so makes not a sober and industrious Enquiry into the Things which are delivered. Hence proceed Error and Mistake. Opinions in Medicine are handed from one to another, and one Writer follows another, and it is thought bold to offer any thing against them ; you must take them on Trust. To these may be apply'd the Observation of that noble Person before-nam'd, That Sciences, when they are peremptorily reduc'd into a nice and precise Model, receive afterwards small or no Augmentation. This cramps all Knowledge, and causes a wonderful Decay in Learning : When a *Ne plus ultra* is engraven on the Pillar of Truth, as on those of *Hercules*, there must needs be a Stop to the finding out, and discovering of many excellent Notions. Men stiffly fix upon this, or that Hypothesis, and then bring all Phœnomena to be solved by it ; and they must be solved by that alone, whatever comes on it. In short, neglect no Study or Pains, deliberately and calmly examine all Circumstances, bring every Thing to the Test, fathom it to the Bottom. And as in Philosophy, a free Virtuoso uses all laudable Methods to acquaint himself with the true Powers of Nature and of Art, so in the Researches and Studies which relate to

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Phyſick, all generous Minds betake themſelves in good Earneſt to whatever Way they think may conduce to ſo great and noble an End, as the purchaſing of Truth; which they cannot expect to do without great Pains and Induſtry. How do the Chymiſts labour and toil, ſweat and blow, to gain their beloved Metal? And many of them ſooner find their Grave-ſtone, than that which they ſtile the Philoſophers. You muſt ponder, and examine Things with great Deliberation, becauſe Truth and Error are cloſe together; you muſt be at the Pains to untwiſt them: And becauſe they are by ſome Mens Folly mingled together, you muſt take Care to garble and ſift them well. It is obſerv'd by a judicious Writer, * That there is no Error but hath its Nutri- ment from Truth, in whoſe Root it is en- grafted, like a wild Plant in a natural Stock: Therefore there is need of extra- ordinary Care and Study to diſtinguiſh theſe two in ſome Caſes. In ſhort, we muſt be exact here, and not content our ſelves with beholding the bare Surface of Things, but penetrate into them. Depend upon it, the true Knowledge of Phyſick is never gain'd but by great Induſtry; and thoſe Notions and Opinions are always falſe and erroneous, which have Ignorance and Lazineſs for

* Dr. JACKSON.

their

their Parents. We must remember that our Ideas and Conceptions of Things are very lame and imperfect ; we labour under an inevitable Weakness of Mind : And this Craziness of our Faculties hinders that clear and distinct Perception of Things which the afore-mention'd Philosopher makes the main *Keirion* of Truth. There are some are so weak, and so fickle in their Judgments of Things, that we may be almost inclin'd to think, that their Brains, like those of some other Animals, increase and decrease with the Moon. Most certain it is, that all Mens Brains are not of an equal Size. There are different Makes and Measures of them, and hence there are different Results of human Reason in the same Matter. There are some Men have a very poor Stock of Intellectuals. These weak Brains mistake, and cannot help it. Hence it must needs be that some Persons are more obnoxious to Error than others. Many Hypotheses are plausible, whilst they are only in our Conceptions, but they become useless when we begin to reduce them to Practice.

But to return : 'Tis the common Observation of Physicians, that the Quantity of Blood in a human Body is about twenty-five Pound Weight : But that, as one observes†,

† Dr. KEILL of Animal Secretion.

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by Blood, I understand not only the Fluids in the Veins and Arteries, but likewise that in the Lympheducts, Nerves, or any other Vessel of the Body, because they are all Parts of the Blood, separated from it by the Force of the Heart, and many of them by the same Force return to it again ; and therefore when I speak of the Quantity of the Blood in the Body, I would be understood to mean the Quantity of the circulating Fluids, of what kind soever they be. But since these Juices may be diseased, but can neither be mended or altered but by the Blood contained in the Arteries and Veins, I mean the Spirits as well as other Fluids separated from the Blood strictly so call'd ; it will nearly concern all who are Votaries of the Art of Physick, carefully to observe the Uses of that Scarlet Liquor, that so they may the better comprehend the Vices and Faults in it : In that is the Fountain from whence the greatest Number of Diseases are derived, and the Medium by which most of them are to be cured. 'Tis the most universal Humour in the whole Body, as being in reality the Source from which are derived, and into which are again discharged all the other particular Juices in the Body ; one of which is the *Lympha*, little differing from the Serum of the Blood in Colour or Consistence, or indeed in any other

other discoverable Quality ; except that the Serum is probably charged with more recrementitious Parts.

This Liquor is separated from the Blood possibly in all Parts of the Body by peculiar Ducts of its own, and is therefore dignified with a separate Name, and is called the *Lymph*: This some would have to be the immediate Matter of Nutrition: But whatever the nutritious Particles may be, it is plain that from the Admission of the Chyle into the Blood, their Motion is confounded with the Motion of the Blood, and conformable to it. Whatever Notions therefore speculative Men may advance about the distinct and gradual Motions of the nutritious Matter, and whatever Distributions they are pleased to make of this sort of Matter to one Part, and that to another. They exist in Imagination only, and admit of no Proof, nor indeed any regular Examination. For as the nutritious Juice or Juices are mix'd and circulate with the Blood thro' all the Parts of the Body, all that we can distinctly conceive of them, is, that as the excrementitious Parts are in their Passage separated into specifically distinct Fluids, by Means of Glands, whose Pores are adapted to such Particles only, as when they come together make such peculiar Species of Fluid ; as the Urine by the Kidneys ; the Bile by the Liver, and the *Saliva* by the Glands about

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the Mouth, &c. So we may conclude, without offering Violence to Reason, or straining Inferences, that the Pores of the Parts to be nourished, are so figured and formed as to retain those peculiar Particles, which conform best to them.

Most think, that the Serum of the Blood is that animal Fluid that contains all the Materials required for Nourishment. This Serum, says a late Author, * however variously examined, shews not the least Tincture of Acid or Alkali, but is of a mild, soft, glutinous Disposition, easily mixes with Water, and is almost free from either Taste or Scent: If warmed with a gentle Heat, it gradually dissolves away, and loses all its Viscidity, but if expos'd to a Degree of Heat greater than that which is natural to a human Body, it becomes coagulated, and so solid, that it strongly resists the Knife: Spirit of Wine mixed with it produces the same Alteration, with this Difference, that it continues then free from Putrefaction. Hence appears, says he, the Cause of the Blood's Viscidity in all inflammatory Cases, proceeding from an increased Degree of Heat; the Blood in the Beginning of such Distempers being often perfectly florid, and mixed with a due Proportion of Serum: Hence likewise appears the great Error of

* Dr. BARRY'S Treatise on a Consumption of the Lungs.

endeavour-

endeavouring to attenuate such Blood, by stimulating, volatile, alkaline Medicines and Blisters, which by increasing the Motion and Heat of the Blood, must consequently increase its Viscidity. This Error is in some measure owing to ascribing the common Properties of a homogeneous Fluid in general to the Blood, and the Alterations it receives from Mechanic Causes acting on it; whereas it is heterogeneous, and endued with Properties only peculiar to this Fluid. It acquires a Viscidity, tho' of a very different Nature, either from too intense Motion and Heat, or from a Circulation too languid: In this last Case, the Globules of the Humours receive larger Superfices, and become specifically lighter: In the former Case, the Specific Gravity is increas'd, and they are so compacted and pressed together, that they almost become solid, and unfit for longer Motion. The Want of this Distinction has been the Cause of great Errors in Practice; for the Method of altering each Viscidity is very different, and the Reason which is commonly given for the Use of stimulating, volatile Medicines, in an inflammatory Coagulation of the Humours, (that when Blood is taken out of the Body, and mixed with them, it does not receive such a strong and quick Coagulation as otherwise) is the strongest Argument that can be offered against the Use of them; for then
it

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it is most evident, that the Viscidity of the Blood is intirely owing to the Want of sufficient Motion ; as it is likewise in a *Leucoplegmatia*, a particular Sort of Fever, and several Chronic Disorders, where such a Method is greatly serviceable ; but the Disparity is very great, when the Viscidity of the Blood proceeds from too intense Heat and Motion, and which must be unavoidably increased by such active Preparations. Hence likewise appears the Error of such who assert, that spirituous Liquors attenuate the Blood : And likewise the Reason why such as are too much addicted to them, are subject to Obstructions, Polypus's, Palpitations of the Heart, and Nervous Contractions.

This Serum of the Blood moistens and lubricates the Fibres of all Sorts, and keeps them subtile and slippery, extensile and contractile, without which they could not perform their Motions and Operations. It is the Receptacle and Vehicle (as a late Eminent Practitioner says) † of all Animal Salts. When it is over-season'd with Muriatic Salt, it occasions Scurvy, Catarrhs, Coughs, Consumptions, Putrefactions, cutaneous Eruptions, Ulcers, &c.

When the Serum is disproportionate, and abounds too much, it causeth Coldness of

† Dr. FULLER's Exanthematologia.

Constitution, Thinness, and Poverty of Blood, Rheums, Dropsies, Chlorosis, and Tumours by Congestion.

When it is not plentiful enough, (especially the Lymphatic Part) there follows Thickness of Blood, Obstructions, Inflammations, hot, dry Constitution, Hectic Fever, and Atrophy. And in that Case, drinking plentifully of any sort of Liquor whatsoever, tho' it pour Moisture into the Vessels, yet that will in no wise supply the Want of *Lymph*; for the potulent Part being no constituent Part of the Blood, mixeth not intimately so as to become one uniform Body with it; and when it hath a little superficially diluted the Mass, and washed out the Vessels, it forthwith runneth out of the Body again. Hence it may appear, why Diaphoretic and Diuretic Medicines, though they may provoke Sweat and Urine plentifully enough, yet very often signify little toward the Discharging the Blood of such Maladies as are seated in, or occasion'd by the *Lymph*; for such Medicines act not so much upon the Lymphatic Element, which is a real Part, and cannot be without Difficulty separated, as upon the Potulent, which only swimming in it, and not intimately mixing, may easily be driven off. But in Febrile Distempers, where the Morbose Matter is got no farther than the *Lymph*, and hangs but loosely in it, Nature generally

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rally can separate and expel it without any troublesome Symptoms or Ebullition.

As to the Globules of the Blood, 'tis observed, that they may be subdivided into almost infinite little ones, even till they lose their Colour; and by this means become capable of passing thro' the Arteries, Veins, Interstices, Muscles, Fibres, Glands and Strainers, be they never so minute; nay, they can pass where even the Air cannot, as hath been proved by two Experiments in *Philosoph. Transact.* Abridg'd; Vol. 3. p. 208.

The Exiguity of these Globules is astonishing, and cannot well be estimated: *Leewenhoeck* says, The Globules that make the Blood red, are so small, that *Centena myriadum millia*, an Hundred thousand millions, are not equal in Bulk to a pretty large Grain of Sand.

It is these (says one) that give the Blood its main substantial Richness, and (by the Agency of the Spirits) Heat; they as it were, hatch, and breed, and conserve the Vital Spirits. These mix with the Chyle, when brought into the circulating Mass, and digest, and work it up into perfect Blood: And they afford the Matter of Nourishment to all those Parts that are properly Flesh, or carnous *Parenchyma*. When the Blood is not sufficiently stored with these, it is crude, cold, pale, unfit to warm and
nourish

nourish where it flows. It is also unable to separate Heterogeneities, and throw off Re-crements : Whence are occasion'd a sickly Constitution, Weakness, Cachexy, Dropsy, *Mensum Carentia*. When the Mass is disproportionably over-stock'd with them, they make an hot, feverish Constitution; and when upon any Occasion they are loosen'd from their Mixture with the other Elements, or are irritated by disagreeable Matter got in among them, and so running together in Combinations, grow exorbitant and turgid; they then (by the Help of the Spirits) exagitate the whole Mass, and make it boil vehemently, and so produce Inflammations, Fevers, Hæmorrhagies, and Disorders in the Head, Lungs, Stomach, Viscera, &c.

And he mentions by the by, That he had seen Countrymen, at the Death of a Buck, drink a good large Draught of his warm, and as yet, live Blood, for the Cure of a Jaundice. Perhaps it may, in that impoverish'd State of Blood, bring in a Supply of fresh Globules, and renew it, and be a sort of Transfusion of Blood. He farther observes, That some who have been so curious as to taste the Serum of Persons let Blood in a nervous Rheumatism (for the true muscular Rheumatism is not often seen now-a-days) never found it more salt or sharp

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sharp than usual in other Diseases; and therefore take up an Opinion, that this Distemper is not caus'd by any morbose Acrimony of the Blood, but by its mucilaginous Thickness, which not finding free Current thro' the Capillaries, stops, or, at least, creeps on but slowly, and sheds often Serum into the Parts; which extending, and tearing asunder the Fibres of the Membranes beyond their natural, easy Tone, excites Pain.

Consentaneous to this, a Physician told him, That in a Rheumatism, he hoping to sheath the pricking Points of the Salts, gave, for some considerable Time, three Ounces a Day of Gum Arabic, dissolv'd in a watery Vehicle; but he thought the Distemper grew more painful and obstinate by its Use, and so was forc'd to leave it off.

He observes, that the Size of the Blood is a peculiar, gummy, oily Substance, something like the Decoction of Calves-Foot; and the Uses of it are to blunt, and sheath up the Points and Edges of acrid Salts, &c.

'Tis observ'd, that an high Scarlet Blood will be caused by muriatic, acrid Salts, as it usually is seen in a Pfora, Leprosy, and other cutaneous Affections: And that morbose, febrile, and venomous Particles in the Blood, will frequently produce a lively, florid Colour in it; but this portends ill, is often

often seen in malignant, pestilential Fevers. So that a florid Blood is not always the Sign of good Blood.

'Tis well observ'd, That a *Plethora*, or Redundancy of Blood, is divided into Sanguineous and Cachochynic : In the first, the Blood is laudable, and offends in nothing but Quantity ; and the Bleeding only is indicated without Purging. In the second, it offends in Quality as well as Quantity ; and in that Case, Bleeding and Purging are both requisite ; for Bleeding alone will not carry off cachochynic Humours ; nor will Purging diminish the Fulness of Blood.

Dr. *Fuller* observes, That there is a true, and bastard *Plethora* : The true is to be known from the bastard by this ; that whereas the former is constant, and (unless Causes happen) remains the same with Increase or Diminution ; the latter is only temporary, never cometh without a Fever : and when that Fever ceaseth, it certainly sinks away again. It very often requireth no Bleeding at all, especially in the following Cases : First, if the febrile Matter be not so much entangled with the Blood, but that it be certainly thrown out by orderly *Paroxysms*, (as it is in intermitting Cases) such a *Plethora* will sink into a due *Dimensum* of its own accord when the Fit goeth off, and the whole Mass will then be conveniently contain'd in its Vessels ; and therefore there will be

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be no need of taking away Blood to lessen its Quantity. Secondly, if the Fever be caus'd or accompany'd with such Matter as hath something of a malignant Nature, yet if it be in the way of Concoction, and is likely to suffer Expulsion, and no Inflammation or perillous Symptoms appear, let the Veins look never so full, they want no Depletion by Venæsection; and if Blood should be drawn, there might be Danger of Malignities getting an Advantage of the Spirits, and ruining of the Blood. Thirdly, but if the Matter be of so violent a Sort, as to break the Globules of the Blood all to Pieces, dissolve the Contexture of the Mass, destroy the Vital Functions and Animal Oeconomy, Phlebotomy cannot possibly do any good, but will weaken Nature, hasten Death, and disgrace the Physician.

The Diseases and Disorders of the Blood proceed from various Causes; but I shall refer you to a learned Author *, where you will meet with a very rational Account of this Matter.

'Tis observ'd, that *Mercury* mix'd with the Blood, attracts the acid Salts of the Pox, and uniting to them, carries them off, either by Stool, Spittle, or otherwise: This Power of Attraction in *Mercury*, is the Reason why *Cinnabar* is so good a Medicine in fix'd

* Dr. DRAKE'S Anatomy, Vol. II. pag. 442.

and

and vagrant Pains, as in a Rheumatism; for the Urine of rheumatic Persons is found, upon Examination, not to contain its due Quantity of Salts; which therefore being detain'd in the Blood, turn acid, and produce Pains.

'Tis likewise observ'd by several, that the Stone proceeds from a Want of a due Proportion of Oil in the Blood: And *Waldschmid*, in his *Institutions*, p. 86, says, *Calculos puto generari ex defectu particularum oleosarum; & ob id ratio in promptu est, quare omnia fermè oleosa, item oleum Amygd. d. in copia haustum, a calculo præservat. Oleosæ enim particulæ, ramis & tricis suis impediunt, quo minus arete coiere queant in durum corpus spicula salina: compertum enim ex chymicis est, oleum resistere crystallationi; hinc nonnulli ut elegantes crystallos acquirant, addunt lixivio salino Sp. Vin. re-ctificat. ut ille particulas pingues oleosas absorbeat.*

And the Truth of this, I remember, appear'd by Mr. *Moult*, the famous Chymist, analysing the Blood of one in this Distemper: And *Cyprianus* his Medicine for preventing this Distemper, was, *R. Ol. opt. Succ. Limon. Vin. Rhenan. ana Coch. ij. m. f. Haust. pro re natâ sumend.* 'Tis thought by others, that Attraction, by which the Particles of Urine attract one another, occasions the Formation of Gravel and Stone

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in the Kidneys and Bladder ; † and the *Nucleus* of the Stone in the Bladder being almost equally furrounded every where with the Fluid of Urine, its Attractions are almost every where equal ; and therefore the Stone is made up of so many parallel Shells, or *Laminae*.

Now from this it demonstratively follows, that copious and liberal Drinking must necessarily prevent the Growth of both : For by that the attractive Particles are removed at a Distance too great to attract one another. Provided always that the Drink be such as is not highly saturated with Particles, which easily and strongly attract one another. What these Drinks are, they, who know the Nature of the Liquors which are commonly drunk, will easily understand. The best in *England*, to my Knowledge, are some Sorts of *Herefordshire* Cyder, (not *Redstreak*, or any that is inclin'd to be acid) but especially the *Barlow*, and some other Sorts of Perry there.

And as the Causes of the Disorders from bad Blood are carefully to be sought, so likewise the Nature, Origin and Office of the other Juices of the Animal Body, which are all separated from the Blood, must be duly consider'd ; for they are the Causes of many Distempers. To instance only in

† Dr. KEIL of Animal Secretion.

one, *viz.* the *Bile*; from the Fermentation of which Juice, with the vitiated Humours of the *Primæ Viæ*, the first Symptoms of some Fevers may be very well explain'd : and from the Consideration of the periodic Evacuations of this Juice in the Gall-Bladder, the Doctrine of some Intermitting Fevers, (for they like other Distempers that go by the same Name, have various Causes) may be better establish'd than it hitherto seems to have been, as I could very easily shew ; the Laxity of the *Pylorus* suffering it to get into the Stomach, and so occasion those febrile *Paroxysms* we daily see.

'Tis observ'd, that the Bile, as it offends either in Quantity or Quality, oftentimes brings very great Disorders upon us. For as in our natural State, when the Blood abounds with bilious Particles, yet not to that degree as to interrupt the Regularity of our Actions in the Animal Oeconomy, which would be to make a Disease ; but gives that sort of Constitution that the Ancients call'd *Hot-liver'd* ; we find by Observation, that our Bodies are always liable to hot Diseases ; such as Fevers, &c. And on the other Side, where these active Parts are not so abounding, they are disposed to cold Diseases, such as Obstructions, Cachexies, &c. So in a præternatural State, how the Alterations are produc'd, may be easily accounted for ; the too great Quantity

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tity of it making the Blood more fluid and spirituous ; as the Want of it more viscid in Consistence, and less active.

And 'tis observ'd, that a large morbid Liver is caused from a Superabundance of Gall : For it appears by Dissection, that all Animals that have their Livers distemper'd, are found to have them always ting'd with Gall : And among Butchers it's the common Indication of a rotten Sheep, when the Liver is not of a florid Complexion, but ting'd with the Bile : Therefore if there be in such Cases a disproportionate Liver, it must be some heterogeneous Particles of Matter obstructing the Juices in their Circulation thro' the Capillary Vessels of the Liver : From whence it becomes enlarg'd in Magnitude ; and this is frequently the Effects of a Superabundance of Bile : for when the Liver is overcharged with that Lixivious Alkali, the Tone of its Parts is thereby vitiated, and render'd incapable of aptly secreting that destructive Juice, and emitting it thro' its proper Emunctories.

That the Bile offends in Quality, may be granted, I presume, from the Alteration of the Colour, which is made in its præternatural State. Its natural Colour is Yellow ; but in a morbid State, it will turn from that to a deeper Yellow ; and so from a lighter to a deeper Green ; so to a black Colour : as may be seen by the Experiment of mixing

ing Acids with it ; which they likewise coagulate into a Substance not extremely unlike the Stones taken out of the Gall-Bladder : The Affusion of Spirits of Harts-horn will redeem it from its Coagulation, when it is lightly so. But whether any Liquor in the Form and full Force of Acids, can get to the Bile in the Liver, I think may be fairly question'd : But it is certain, it may meet them in the Intestines and Stomach, where (according to the Degree of the Fermentation they make with it) they may produce either Flatulencies, Vomiting, the Cholera Morbus, Diarrhœa, and Dysenteries, according to the Parts affected, and where these heterogeneous Liquors meet.

From the Effervescence made by the Bile with the other vitiated Humours, Flatulencies frequently ensue, which will very well account for a great Number of the Symptoms of Hysteric and Hypochondriac Persons ; as we see Hysteric Colicks oftentimes terminate in a Jaundice.

Which Disease, as a learned Physician * observes, is not only (if at all primarily) from an Obstruction of the Biliary Canals that this Symptom does proceed, but also from any Cause whatsoever which either destroys the Saline Part of the Bile, by the means of which its Oil is kept mix'd

* Dr. MEAD on Poisons.

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with the Water of the Blood, or else increases the oily and sulphureous Part to that degree, that tho' it be duly impregnated with Salt, yet the watery Part of the Blood, which can only take up a certain Proportion of it, being already saturated, can receive no more: Or lastly, does, by disuniting the compounding Particles of the Blood, alter that intestine Motion and Agitation which is necessary to carry along thro' the Vessels, together with the more volatile Parts, those which are more clammy and glutinous. For in all these Cases 'tis plain, that the bilious Corpuscles must be precipitated upon those Parts of the Body where there is least Motion, that is, upon the extrem Superficies.

And though this Theory may, perhaps, appear extravagant, because new and uncommon, yet it will not, I believe, seem ill grounded, or irrational to those who understand the Doctrine of the Mixture of heterogeneous Fluids and their Separation; and who withal know, that the Vessels are rarely obstructed, unless it be from the Liquid they carry, and consequently, that a Defect in the Bile itself must be (excepting some extraordinary Cases) antecedent to the Obstruction in the Biliary Ducts.

In short, the different Cure of this Disease confirms these Notions; for an *Icterus* from the first Cause assign'd, which is generally

rally owing to a sedentary Life, Want of Exercise, &c. and attended with an extreme Costiveness and White Fæces, is cured by volatile, acrimonious, and bitter Salts. From the second, produced oftentimes by drinking Strong Liquors, Spirits, &c. and accompany'd with a *Diarrhœa*, partly by diluting and temperating, partly by stomachick and strengthening Medicines. As the last Species of it is remov'd by such Antidotes as overcome and destroy the venomous Ferment, corrupting the Blood, and breaking its Compages.

And 'tis well known, that by Irregularities of Life, Intemperance, and such Causes as destroy the Functions in the *Primæ Viæ*, will be first made an Accumulation of peccant Humours in the first Passages, because the Strength of Nature in such Circumstances can carry it no farther; whence comes the Jaundice, Dropsy, Asthma, &c. 'Tis by others observ'd, That the viscid Constitution of the Blood, which being loaded with a too viscid Lymph, or saline coagulated Particles, the Bile being from thence thicker than ordinary in its Consistence, produces Obstructions; for by this means, it being incapable of being taken into the slender Capillaries of the Biliary Ducts, it there stagnates: and being again received into the Blood, either by the Roots of the *Vena Cava*, or the Lymphatic Vessels,

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there follows the Distemper call'd the *Jaundice*. And the Method taken to cure this Disorder, proves as much ; which is effected by attenuating Medicines ; which as they open Obstructions, so they render the Fluid more liquid by their deobstruent Quality ; according to the Observation in Practice, That those Medicines which facilitate the Secretions or Separations to be made in the Blood, do likewise dispose the Colatures to the better Performance of their Duty.

Many are of Opinion, That Obstructions alone are not sufficient to cause a Jaundice ; and also that it may happen without Obstructions. To prove this first Assertion, they give us Instances of Persons labouring under Obstructions ; as Cholerick, and Hypochondriac Persons, who have no Jaundice ; and therefore that Obstructions alone are not sufficient. But here they should likewise have proved, that the Liver was not obstructed in these their fancied Obstructions. To prove the latter, one from *Autopsy*, brings Instances of Icteric Bodies, that he had dissected, where there were no Obstructions to be met with : And to strengthen this Notion, the Biting of Vipers, which are own'd by all Authors to give Rise sometimes to the Jaundice, and which in so short a Time, can hardly be supposed to make such Obstructions, is a farther Argument.

gument. This Effect may be imputed to a fermentative dissolving Humour, which by the Biting, the Viper has communicated to the whole Mass of Blood; and which by its great Activity and Power it has of dissolving the Blood, renders it more bilious. Passions will produce the same Effects. These Instances encourage us to divide the Jaundice into a Disease, that owes its Original (besides other Causes) to the great Attenuation and Fluidity of the Bile, as well as its Viscidity, the Author of Obstructions. And this Distinction may be of Service to us, in the Method of Cure of this Distemper; which as it proceeds from different Causes, (as most, if not all Distempers do) the Method of Cure must likewise be diversify'd; for otherwise, the Physician treating all Icteric Persons alike, must oftentimes be disappointed of his Aim, and act like a Quack, the worst of Pickpockets.

'Tis observable, that one Cause of the Rheumatism, Vapours, Cholic, cutaneous Eruptions, sharp Pains, &c. is from the Retention of that gross perspirable Matter, that should go off by insensible Perspiration: And there being Pores or excretory Ducts of the cutaneous Glands; both internal, as of the Guts, and Viscera, and common Coverings of all the Muscles, as well as the external of the outer Skin, Nature has so provided, that if by any external Cause, this

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this necessary Evacuation is hinder'd in any one Part, it is always increas'd in another, or else a Distemper will ensue; for which Reason, when the Coldness of the external Air, which more immediately affects the outer Skin, lessens the insensible Perspiration that way; either the sensible Evacuations are increas'd, as commonly the Urine; or greater Quantities are carry'd off by Respiration from the Lungs, and Parts about the Mouth, or perspir'd into the Cavities of the Guts, which afterwards are discharg'd from breaking Wind, either upwards or downwards: For as long as the Impulse from within remains the same, where-ever there is the least Resistance, there always will be the greatest Derivation of the perspirable Matter. And from hence it is, that we so frequently find when the Body is more than usually expos'd to external Cold, Gripings and great Uneasinesses in the Bowels; which is nothing else but some Part of the perspirable Matter that ought to have pass'd the outer Skin, check'd by the Cold, and by an opener Passage within, thrown off that way. And 'tis farther observable, in several diseas'd Persons, especially those we call Hypochondriacks, this Matter acquires so much Acrimony or Sharpness, as to irritate and offend the Membranes very much, cause sharp Pains, and sometimes violent Cholicks; and this
is

is the Reason why Riding, and any brisk Exercises are always found of such mighty Service to these People, because it diverts the perspirable Matter in greater Quantities by the outer Skin, which is not so tender and perceptible of those irritating and sometimes corrosive Steams. And 'tis very observable, that such Persons, at those Times they are freest from inward Complaints, are very subject to Rashes and cutaneous Eruptions; which is nothing else but the gross acid perspirable Matter (that at other times used to get thorough the Viscera into the Cavities of the Belly, and occasion'd the afore-mention'd Disorders) drawn off by the outward Skin, and raising up the *Cuticula* in several Parts as it passes, and sometimes abrading and tearing off the Extremities of the Ducts in such a manner as occasions a continual pouring out of a visible Serum. And those wandering Pains likewise which some complain of so much about their Limbs, are thought to be owing very much to the same Causes. The Actions of the Muscles undoubtedly wear off and perspire a great deal through their respective Coats; which if it be digested, and broke very small, by degrees gets thro' the Substance of the Parts, and flies off, *quâ datâ portâ*: but otherwise it may be confin'd and lodg'd in the Interstices of the Muscles; and by its Grossness or Acrimony, occasion those sharp and

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and severe Pains that are felt in Rheumatisms: And if it be not by some means or other discharg'd, in a short time, either by an Increase of its Quantity, or by the Derivation of a greater Store of Juices to the irritated Part, it raises considerable Swellings, and at last renders the affected Muscles incapable of Motion. *Quincy.*

'Tis observ'd, that the Stomach, by the Help of its muscular Fibres, together with the Diaphragm and Muscles of the Abdomen, is enabled so to toss the Meat about; that tho' I cannot think that Motion is the sole, according to the *Scotch* Doctor, * yet 'tis certainly one of the principal Cause of Digestion: The *Saliva* and Juices separated or concocted in the Stomach; the compressive Force of the circumambient Parts; the Heat of the Stomach; and 'tis possible, nay, very probable, that the Chyle is impregnated in the Stomach and Intestines with a great Quantity of Animal Spirits; for there is an uncommon Distribution of Nerves to those Parts, and much greater than seems sufficient for their muscular Motion: And it is more than probable, says a late Writer, † That the last Extremities of the Nerves terminate in several Parts of the Body, where they are dispers'd, and perpetually exhale that elaborated Fluid. Hence

* Dr. PITCAIRN. † Dr. BARRY on Consumptions.
appears

appears the Reason why such as have a bad Habit of Body, receive but an imperfect Nourishment from the most concocted and best prepar'd Aliment ; the Chyle made from thence being soon tinctured and depraved by the natural Juices which are mix'd with it ; and why such, who have fasted for a long Time, or have recover'd from acute Distempers, if they take suddenly too great a Quantity of Nourishment, are apt to fall into Obstructions, and particularly of the *Mesentery*, their Fluids being exhausted to such a Degree, as not to supply a sufficient Quantity to dilute and prepare the Chyle.

From this short Account of Digestion, may therefore be evidently explain'd the Causes which naturally excite or deprave the Appetite ; what artificial Stomachic sare proper to restore it, and their Manner of Operation. The Want of Appetite generally proceeds, either from a Relaxation of the Stomach, or from a Fault in the Humours separated or received into it, by their pungent Acrimony or oppressing Viscidity. And he very well observes, That pungent, stimulating Stomachics ought never to be given when the Appetite and Digestion are depraved, without being joined with such Medicines as strengthen the Stomach and help Digestion ; for they only afford a false destructive Appetite, and are soon blunted
and

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and absorbed by the Food which is taken; while the Stomach, by its languid Heat and Motion, and that of the circumambient Parts, is incapable of digesting it: By this means Crudities are collected, Obstructions of the *Viscera* are from thence form'd, and what was design'd for Nourishment, proves at length a most certain Destruction to the Body: On this Account, the Custom of whetting in a Morning has been so frequently observed to be attended with a fatal Consequence. But more of Digestion hereafter.

The best Stomachic in the World, as I know by my own Experience, is the *Bath-Water*, drank at the Pump, according to the Rules given by the learned Physicians there; and I know no Chronical Case (except a feverish and inflammatory Constitution forbids the Use of it) but that those Waters are of singular Service. As an ingenious Physician at the *Bath* observes*, 'The *Bath-Waters* claim the right Hand in the Cure of the following Diseases; *Palsy*, *Convulsions* from *Inanition*, *Want of Appetite*, *Indigestion*, *Cholicks*, *Faundices*, *Hypochondriac*, and *Hysteric Affections*, *Arthritis Vaga*, or the *Flying* or *Wandering Gout*, *Suppression of the Menses*, and *Hæmorrhoids*, *Epilepsy*, *Cachexy*, *Sterility* in

* Dr. WYNTER's Essay on Chronical Diseases.

Women,

Women, *Leprosy*, and most cutaneous Diseases, in such as have no Symptomatic Fever, no Inflammation attending them; and, in a word, where-ever the Parts are too much contracted without Rupture; or, as it is termed, *Solutio Continui*: For in those Cases, by their great Spirit and Heat, they occasion *Hæmorrhages*, if drank warm; and to drink them cold, is not to drink them medicinally.

I think it not improper here (since I had the Liberty given me, to publish the following Case, to shew the wonderful Effects of these salutiferous Waters. ‘ When I was
‘ at the *Bath*, in the Year 1729, the Honourable General *Russel* told me, That he
‘ had for some time been troubled with
‘ a Bilious Colick, which turn’d to a Black
‘ Jaundice; he was emaciated to that degree, that one of his most intimate Friends,
‘ tho’ he talked with him some time, did
‘ not know him. He had used various
‘ Medicines, which my learned Friend Dr. *Asbenburst* told me of; and at last was
‘ sent by him to the *Bath*, where he was a
‘ Fortnight or three Weeks before a Glass
‘ of the Waters would stay in his Stomach,
‘ whatever he eat or drank occasion’d violent Pains in it, with constant vomiting
‘ up a great Quantity of Humours of various Colours, black, &c. very hot, and
‘ so corrosive, that he compar’d them to
‘ *Aqua*

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' *Aqua Fortis*: To alleviate which Pains,
 ' he was forced frequently to take *Philon.*
 ' *Romanum*: He had taken several Purges
 ' and Vomits, but they immediately came
 ' up, without answering the Intention for
 ' which they were given. He was advised
 ' by his sagacious Physician to leave off all
 ' Medicines, except the *Bath-Water*; a
 ' little Glass of which at last stay'd in his
 ' Stomach: Upon which the Dr. told him,
 ' that he was then in a fair Way of Recovery;
 ' and according to his just Prognostication,
 ' the General received so much Benefit by
 ' the Water only, that when I saw him, I
 ' thought he look'd as well and healthy
 ' as ever I saw any Person of his Age, be-
 ' ing then at least Sixty-three.' So proper
 are these Waters for the Maladies and Dis-
 orders of the Stomach, Guts and Nerves.
 I saw the General very hearty the Year
 after.

'Tis observ'd, that Bitters and Chalybeats
 lessen the Viscidity of the Blood, and in-
 crease its Celerity, whereby it is fitted for
 the Secretion of perspirable Matter, and also
 of Animal Spirits, which will strengthen the
 muscular Fibres, and so help muscular Mo-
 tion: And how much moderate Exercise
 in cool, dry Air strengthens the Fibres, and
 increaseth Health, is evident from daily
 Experience.

I re-

I remember the very communicative and learned Dr. *Hulse*, (Father to the Eminent Physician, now of that Name, told me, That he had cured several, particularly one Mr. *Petit*, after an unsuccessful Use of Steel and the Mineral Waters, of the *Affectio Hypochondriaca*, by allowing him a plentiful Use of Apples, sixteen or twenty in a Day for a Month: For, as one observes *, The long and plentiful Use of Apples at such times as the Stomach is most empty, does very much correct that vicious or præternatural Acid, to which Scorbatic, Hypochondriac and Hysteric Constitutions are obnoxious; sweetens and enriches the Chyle, facilitates its Assimilation with the Blood, and thereby accidentally fattens; resists Melancholy, and cheers the Spirits, by a more easy and regular Distribution of them; attemperates the Bile, and Pancreatic Juice, taking off their troublesome Effervescence, when either through the Oiliness of the one, or too great Acidity of the other, it exceeds the Laws of Nature, and keeps the Body evenly soluble, beyond any of the most artful Compositions. As 'tis no easy Matter to exceed in the Number or Quantity, so the best way of eating them is raw; for by roasting, not only the thinner Parts of their Juice are exhal'd, but what remains is

* CURTEIS's Essay, &c.

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very much alter'd, and made flatulent from those Particles of rarefied Air received into them: Yet these medicinal Benefits are not to be expected from Apples in common: Only those of a rich, fragrant, and well-temper'd Juice are recommended; such as Golden-Pippens, Pearmains, &c. The first of which being soonest ready, may be eaten for a Month or longer; and then the other Sorts in course, according to their successive Ripeness.

The Air is observ'd to be a vast Collection of liquid Matter, whose little springey Atoms are capable of Compression and Dilatation; and when they are squeez'd, and bent, they have a Power (when the Force is taken off) of Resilition, and perpetually endeavour to unbend and expand themselves again. The Rarity of the Air is from this elastic Force, and is really beyond human Conception. There are in our Atmosphere Particles of all Sorts and Qualities; some agreeable and sanative, and others so far removed from our Natures, as to be in the highest degree hostile and hurtful to our Spirits and Humours.

And how can we tell, says an excellent Practitioner †, but that the malevolent Spirits, our mortal Enemies, being Princes of the Air, and having their *Ubi* in it, may

† Dr. FULLER of the Small-Pox.

be sometimes permitted (as we see Diabolical Princes among us are) to work Mischief, and bring Destruction on the Inhabitants of the Earth ; by collecting, compounding, sending down, and shooting off among us venomous and pestilential Vapours in epidemical, mortal Seasons, such as we have had of late Years ?

For we certainly know, by many direful Instances, as that of *Job*, that the cursed Spirits have Malice, Skill, and Materials enough, to be the greatest Antiphyicians in the World, when they are let loose upon us: And from this high Planetary Region comes down the Matter of all Epidemic Fevers, especially such as are either malignant or pestilent ; which the great *Hippocrates* seems to have some Notion of, when he call'd it Τὸ Κάτω, a Something that fell from Heaven. Hence comes likewise the Nitre, that pure, fine, subtile, active, and penetrant Part which gives Vitality to the Air, and renders it so absolutely necessary, that no Animal nor Vegetable can live without it. But besides the Contents which come from above, its far greater and more gross Part ariseth from beneath, out of the Terrestrial Globe. Some of the bigger and drier Particles may be seen by the naked Eye, when the Sun shineth thro' a Hole into a dark Room, Myriads of longish *Ramenta*, like Dust, flying in the Rays ; and it's cer-

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tain, that those little Flyers are really in the Air at all Times, tho' we can't discern them but thus. Clouds, Rain, Wind, Storms, Thunder, and all Meteors are from Vapours and Exhalations out of the Earth and Water.

And besides these, the Atmosphere is full of Animalcules, and their Seed in their Seasons infinitely small: *Leewenhoeck* assures us, He has discover'd some so inconceivably minute, that an Hundred thousand Millions of them would not make a Bulk bigger than a Grain of Sand. And Dr. *Hook* saith, Millions of Millions may be contain'd in one Drop of Water. To this Purpose, some are of Opinion, That Animalcules have been the Causes of malignant and pestilential Fevers in epidemic Times, which differ in Essence and Symptoms, according to the Nature and Venoms of those Creatures.

'Tis worth Observation, what a very learned Person says * upon the Leprosy, mention'd in the 13th Chapter of *Leviticus*. 'Tis my Opinion, says he, that the Leprosy, and all other Distempers which bear any Resemblance to that, as Scurvy, Ring-worm, the Itch, and all that the *Latins* call *Psora*, *Alopecia*, *Porrigo*, *Elephantiasis*, *Mentagre*, &c. and generally all Diseases which affect the Skin of Men or

* Father CALMET.

Beasts, which eat in, and communicate themselves, which increase and spread, and which cause violent Uneasiness ; which occasion the Hair to fall, or change Colour, or which in the End produces Insensibility in the Parts affected ; I say, I believe all these Inconveniencies are at first occasion'd by small imperceptible Worms that insinuate themselves between the Flesh and the Skin ; which first prey upon the Scarf-Skin, and then upon the Inner-Skin, and afterwards upon the Extremities of the Nerves and Muscles, and which in short produce all those Effects that are observ'd to appear upon the Advance, in the Progress, and on the Completion of the Leprosy, or any other Disease which is akin to it.

It is certain, there are few Persons, sick or well, who are free from Worms. They breed in the Bodies of Men, and other Animals, by means of a Seed convey'd into us by the Air, and our Food. The Air which we breathe, and the greatest Part of the Fruits and Nourishment which we take into us, are full of Insects, that willingly adhere to our Bodies on Account of the Warmth they find in them, which contributes to their Entertainment, and enables them to propagate. The Things that surround us, and of which we make use, are often fill'd with imperceptible Insects, which are Enemies to

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our Health, since they support and nourish themselves at the Expence of our Bodies.

The late Discoveries of Physicians, and others, who have made use of the Microscope, have let us into the Knowledge of a World of little Animals before undiscoverable to our Senses ; and which demonstrate to us, that there is scarce any Body that has not its particular Sort of Worm. They are in the Air, in the Water, in the Earth, in Fish, in Fruit, in Trees, in Stones, in Stuffs, in Mortar, in Glasse itself, and in the most solid Bodies. Man is the most subject to Worms of any Creature ; there is scarce a Part in his Body which is not attack'd by them ; every one knows they are bred in the Bowels ; they have been found in the Brain, in the Liver, in the Heart, in the Blood, in the Bladder, in the Navel, in Ulcers, and in the Skin. The Body of Man after Death is destroy'd by Worms ; and an infinite Number of Children and grown Persons die of them.

It has been discover'd by the Help of the Microscope, that a Gangrene consists in an infinite Number of little Worms, which breed in the mortify'd Flesh, and produce others of the same kind continually, which destroy the neighbouring Parts of the Body. According to some Physicians, the Plague itself is occasion'd by a certain Poison spread in the Air, which is communicated to the Blood,

Blood, and so to the nervous Juice, and the more solid Parts of the Body, by means of certain small Insects that are in the Air, and which we receive into our Breasts by Respiration. This is the Method our modern Physicians take to explain the Communication of Epidemical Distempers. They imagine they are propagated by little Flies, which are detach'd from the Ulcers of the Infected, or from the Pustles of those who have the Purples: And we are told, that their Observations in this Affair are made with great Exactness.

From what hath been said by Ancients and Moderns, I think we may safely infer, that the first and most distant Cause of the Leprosy must be a previous ill Disposition of Body, both in the Blood and Juices; but that the more immediate and proximate Cause of it, is an Infinity of imperceptible Worms, who prey at first upon the Epidermis, then the Skin, and afterwards the Glands, and the Muscles; from whence arises a total Corruption of the whole Mass of Blood, and all the Symptoms of the Leprosy; and, in one Word, the Stubbornness of that Distemper, and the Difficulty of curing it, when it is once become fix'd and radicated.

This Disease is much more frequent in hot Countries, and in the East, than in our Northern Climes. Those Insects of which

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we speak, are there more common, more lively and vigorous. The Slovenlinefs of Garments, Beds and Houfes, contributes not a little to this Diftemper ; and when once there are a Number of Lepers in any Place, all Difeaſes of that kind eaſily ſpread among the People. 'Twas for this Reaſon that *Mofes* was ſo careful, and gave ſuch wiſe Precautions to avoid the Leprous, and inſtituted ſuch frequent Waſhings, in order to prevent Naſtinefs, which might occaſion ſuch fatal Conſequences.

'Tis my Opinion, (adds this very learned and judicious Author) that this ſort of Leproſy, as well as that to which our Bodies are ſubject, is occaſion'd by little Worms, which breed in Linen, Stuffs, and Skins. Every Body knows that the Moth is a Worm, that preys upon Stuffs kept too long a Time. Skins ill drefs'd are ſtill more ſubject to Inſects than any other Garments. Tapeſtry made at *Auvergne* is very apt to be infeſted with Worms, becauſe they have not there the Art of diſcharging their Wool well of its Greafe. They put Candles up with their Cloth which they deſign to keep, to prevent the Worm from getting into it ; and the Worms prey upon the Candles, and meddle not with the Cloth.

And this Hypotheſis ſeems to be corroborated by Practice ; for I have cured ſeveral

ral of what they call a Leprosy with us, (*præmissis Universalibus*) by the long Use of *Æthiops Minerale*; which every one knows is good for Worms.

The Atmosphere therefore and Air being fill'd both from above and beneath with innumerable Millions of Millions of Species or Corpuscles, Steams, Vapours, Fumes, Dust, little Insects, &c. these are suck'd in by Inspiration, and produce such Distempers, as according to their Natures, are benign, malign, or directly venomous.

('Tis observ'd by a good Practitioner * That the Particularity and specifical Energy of Things is such, that they will operate upon, and affect particular Matters, as it were, electively. Thus *Aqua Fortis* will dissolve Silver, and not touch Gold; and *Aqua Regia* will dissolve Gold, and not touch Silver. That *Quicksilver* acts upon the Serum of the Blood, and not upon the Globuli; *Opium* upon the Spirits, and not the Humours; the *Peruvian Bark* upon the Humours, and not the Spirits; *Steel* upon the Globuli, and not the Serum; *Cantharides* on the Bladder, and not the Kidneys.)

But tho' the Animalcules have been suppos'd the Cause of several Distempers, and particularly such as are contagious, being inspir'd with the Air; yet these Appear-

* Dr. FULLER.

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ances may be easily accounted for, as the unavoidable Effects, not the Causes of these Distempers, as one observes *: For it is certain, that there is almost an infinite Number and Variety of such Animalcules perpetually floating in the Air, whose chief Business consists in searching out a Place where they may find Nourishment, and a proper Situation for themselves and their Young: But every living Part of a human Body has a perpetual Pulsation, which, tho' imperceptible to our Eyes, is sufficiently strong to give the most uneasy Motion to these Animalcules so minutely small, and entirely prevent them from fixing there for any Time. But as there is no Circulation in any Part that is ulcerated, the Inconvenience of this Pulsation immediately ceases, and the purulent Matter sends forth perpetual Steams fit to nourish them; and by being viscid and adhesive, makes their *Nidus* so secure, that the Motion of the Vessels under the ulcerated Part is not strong enough to dislodge them: After the same manner, the Blasts of Trees and Plants may be more rationally accounted for, than by bringing small Animalcules and their Eggs so many hundred Leagues to produce these Alterations. For there is a Circulation of Humours thro' every Part of Plants and Trees,

* Dr. BARRY.

and in their aerial Tubes a more remarkable Pulsation, which is sufficiently strong to prevent these Animalcules (perhaps more minute than such as are observ'd on Animal Bodies) from having a fix'd and safe Situation there: But whenever any particular Wind, or Alteration of the Air, by either giving a sudden Contraction to their tender Vessels, or a Viscidity to their Juices, produces a Stagnation, and thence a Gangrene, either in any particular Part, or in the Whole, such Animalcules will quickly secure this quiet State and Nourishment.

'Tis the Observation of a great Man *, That the internal Distempers are but just such Things within, as the others are upon the outside of the Body. As for Example, one who understands thoroughly an Inflammation, can with very little Difficulty conceive perfectly well the Nature of a Pleurisy, which is no more than an Inflammation of a certain internal Part: And Things not having been consider'd in this simple manner, has made the Notion of Diseases very perplex'd.

And were the Method of distinguishing Cases in Physick but tolerably understood by a Number of those who practise it, as one one observes †, Multitudes might be saved who unhappily perish. For Instance,

* BOERHAAVE. † GRÆME'S Essay.

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there is, perhaps, not a more sovereign Remedy in the whole *Materia Medica*, than the *Peruvian Bark*: This we know certainly cures an Intermitting Fever; but, alas! it is only a Physician, and a very good one, that can distinguish when such a Fever is to be cured. The Fever is often a Motion rais'd in the Body to throw out something noxious: The Fever can be taken away, and the Disease left behind. If there is any considerable Obstruction lurking in the Bowels, the bad Consequences of an injudicious Administration of the Bark are well known: How many are left from that Cause to languish under the insupportable Load of a Dropsy? Or become a Prey to a Jaundice, which at length consumes them? How often from the same Origine arises an inveterate Scurvy, yea, almost a Leprosy over the whole Body, attended with incurable Ulcers, which turns the remaining Part of Life into a miserable Burden? Well is it for those who have been so used, if a Return of the old Disease, the Intermitting Fever, which very often happens, puts it again into the Power of a Physician to rectify former Mistakes. But what is still worse, if worse can be, there are other Distempers which are attended with Symptoms very like those of an Ague; such are often mistaken for one, and treated accordingly. Have not the Shiverings, which attend a
Suppu-

Suppuration of the Lungs, or indeed of any other Part, been often miscall'd, a Fit of an Ague ; and drawn upon the poor Patient a Load of Bark, which has either very soon stified him, or had some other very bad Effect ? So are the best Medicines often times misapply'd and perverted.

Tho' it be certain, as one observes *, that the Recovery of the Sick is the great Design of the Medical Art, and undoubtedly more necessary than to presage the Event of their Distempers ; yet 'tis no less certain, that when the prognostick Part of Medicine is managed with due Circumspection, Caution and Prudence ; besides, that it acquires no small Esteem and Authority to the Physician, and vindicates the Profession from the Reproaches and Contempt that's thrown upon it ; nothing is more conducive to incline and dispose the Patient, with some Confidence and Assurance, to observe the Advices of such who not only can reason upon the Nature of his Distemper, account for its Causes, and tell him what happened before the Invasion of his Illness, but likewise what may be the Issue and Event of it. Whereas the Predictions that are doubtful, wavering, and uncertain, not only render the Patient hopeless, but the Physician also suspected of Ignorance, especially when nothing is more

* Dr. HARVEY.

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reasonably expected, than that he should prevent a dangerous imminent Symptom discover'd afar off, and by his Art hasten a good one long'd for.

Thus it was that the great *Hippocrates* acquir'd that just Esteem, which always will be due to his Merit : For having with the greatest Diligence and Industry observed the most minute Circumstances of Diseases, he could not only distinguish the one from the other, by the Signs that properly belong'd to each ; but by comparing the same sort of Distemper which happen'd to several Persons, and the Accidents which usually appear'd before, and after, he could foretel a Disease before it came, and give a right Judgment concerning the Issue and Event of it.

But it is very difficult to shew this Art of *Hippocrates* ; the most perfect Experience, and compleat Observation being almost insufficient to this Purpose : so that 'tis no Wonder *Hippocrates* should not be understood, when he recommended a Science, the Seeds whereof were not to be perceiv'd in his Commentators ; and, if I may guess, it was in Acute Diseases *Hippocrates* was best able to clear up the Oversights of the Sick. For these Diseases kept a wonderful Order and Regularity in their Returns at *Choos* ; neither was their Appearance much diversify'd with a Multitude of various Medicines

dicines administred for their Cure. And therefore we may fairly conclude, that it was some of these that always carry'd their Stamp or Mark along with them; and it was the searching after, and finding these pathognomonick Symptoms that gave this Discovery to *Hippocrates*. It is, indeed, very easy for a Physician, says one, to relate what he takes to be a Disease, and with what Medicines he cured it: This appeared to be so very easy, that every Man whose Ambition led him to be an Author, has thought himself qualify'd to give his Histories of Cases to the World. But Experience may fully convince us of the Difficulty of giving such Particulars and circumstantial Observations, as can help us either in finding the Nature of a Disease, or the proper Times and Medicines for our Administration and Application. But notwithstanding the Reasonableness and Excellency of this Part of Physick, yet some, harden'd in their Ignorance, depreciate every thing that falls not within their Capacity, and not only despise this Knowledge, as vain, and impossible, but even reproach the best Set of Physicians as Diviners and Fortune-tellers, for doing Justice to their own Profession, and to Mankind. There are others, sensible of their being incapable of attaining to this Knowledge, recommended by *Hippocrates*, pretend to it, because of the Esteem and Profit

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Profit they expect thereby ; and often foretel without having foreseen : One of these never portend any thing but Danger, and Desponding ; Misfortunes being so very common to them, that a contrary Event should not, in common Reason, secure their Reputation, because they foretel without Fore-knowledge. Another of those who follow for the Loaves, secure themselves by a double Prognostick ; one with the Sick, and another in the World : And 'tis out of this Insurance-Office come all the double Accounts we have of these Artists Prognosticks, at the Decease of a Person of Note, whose manner of dying is always more narrowly enquired into.

We must be very cautious into our Prognosticks from the Pulse, or Urine. 'Tis observ'd by an ingenious Physician *, That in Malignant Fevers, the Blood is loaded with an unequal Viscidity and Fluidity ; or, consists of Parts, whereof some are so tenacious, that they cannot freely circulate in the Vessels, especially in the Capillary Veins, in which the Motion is weak and languishing ; others again are more fluid : But both the one and the other Sort, either separated or mixed in an unequal Proportion, must circulate in the Vessels at different Times ; so that in Malignant Fevers, the tenacious and

* Dr. HARVEY's Præfagium Med.

gross Humours being thus mix'd with the fluid Parts, may produce the same Pulse that's observ'd in those that are in Health, whose Blood consists of unequal Fluids.

We give the most Credit to the Pulse, say the Ancients, altho' deceitful, and not to be relied on, because it beats faster, or slower, according to the Sex, Age and Nature of Bodies. Upon which a late Writer observes *, To make one's Judgment merely upon feeling the Pulse, is as erroneous, as a Judgment given barely upon the Inspection of Urine. For there are many Things that may alter the Properties both of the one and the other contrary to our Expectation, and even beyond our Imagination.

But it is notwithstanding necessary for a Physician not only to feel the Pulse, and consider the Excrements, but every thing besides that can conduce to his better understanding his Patient's Disease.

And it is the Opinion of *Hippocrates* and *Galen*, That an experienc'd Physician should not, as soon as he enters, go instantly to feel the Patient's Pulse; but let him first sit down with a chearful Countenance, and ask him how he finds himself; and if he finds that he is under any Fear or uneasy Apprehensions, let him endeavour to hearten him by some plausible Discourse, and then he may

* Dr. SPRENGELL, Ant. Hipp.

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proceed to feel the Patient's Pulse. To render the Patient's Mind chearful is half the Cure, (as the last mention'd Doctor observes) especially in Women, and hypochondriack and melancholick Persons; for these are naturally timorous and inconstant, and oftener sick than other People. How much the chearing of the Patient's Mind avails in curing a Disease, is well known by those that have but an ordinary Knowledge of the Affections of the Mind. In the mean time, we ought not solely to depend upon this, but enquire exactly into the Patient's Disorders. *Baglivi* advises us to observe the Tongue more than any thing else, and that for a good Reason; for according to the State and Quality of the Spittle, is the State and Quality of the Blood.

To conclude; the Pulses are to be consider'd with the greatest Attention, Caution, and Deliberation, not only with respect to the Strength of the Patient, but also to all the Appearances of his Distemper; as all the Differences of the Pulses are consider'd with respect to one another. 'Tis not enough to apply one's Finger to the Artery, as some do, while their Thoughts are intent upon something else; or to enquire into the Nature of one's Pulse, when he is not free from all Passion of the Mind and Motion of the Body, lest the Alteration that may be made upon it, be ascrib'd to the Disease.

And

And there is no less Caution to be observ'd, with respect to Predictions taken from Urine, than was above-mention'd concerning the Pulses. For as the fore-mention'd Doctor observes *, That all in the same Distemper void not the same sort of Urine, by reason of their different Diet and Constitution, &c. the Urine being vastly different, even in a State of Health. Add to this, that the different Conditions of Urine are common to many Diseases, which are, if not contrary, yet most unlike to one another, and owing to different Causes. Thus a gross, thick, and high-colour'd Urine is voided by those in a Fever, as well as by those that are scorbutick, or affected with an Ascites, &c. The Urine of those that are affected with melancholy Disorders, Worms, bad Digestion, and Nephritick Cholicks, is pale and thin; and the same clear and watery Urine presages a Delirium and Death to those in Fevers, but no such Thing or Danger to those that are affected with the just mention'd Distempers. And 'tis to be observed, that the Urine of those in Fevers is inconsistent with itself, and varies more or less, not always according to its proper Genius and Nature, and in Proportion to its Cause, but sometimes, according to the Conformation of the Reins and other Or-

* Dr. HARVEY.

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gans of Secretion and different State of the
Blood.

For these and many other Reasons which might be adduced, it may be affirm'd, that Predictions and Auguries taken from the Urine, unless it be consider'd with the greatest Care and Circumspection, may be uncertain and precarious, not only in pestilential but less malignant Fevers, and even in those that are intermitting, in Pleurisies, Quinsies, and other internal Inflammations; in which Distempers, the Signs of Death and Recovery, taken from the Urine, have been found to be false and ill-grounded. Again, the same Urine has given Occasion to prognosticate both Life and Death. Thus in Dropsies and pulmonary Distempers, the Urine has resembled that of one in Health, while the Patients have been cut off and suffer'd in an Instant. So that a bare Inspection of Urine, even in the Presence of the Sick, without comparing and considering all other Symptoms of his Distemper, will prove a weak Foundation to raise Predictions upon. For,

Tho' the Appearances of Urine, as we have seen, point at the State of the Blood, and Organs of Separation and Digestion, especially in Feverish Distempers, with more Certainty than any other Signs; nay, most part of other Diseases, whether Acute or Chronical, and their Changes and Alterations,

tions, *i. e.* the Crudity and Concoction of the Morbifick Matter ; the Increase and Decrease, or Exacerbations and Mitigations of the Disease and Event of it, may be known by the Urine ; and therefore the Inspection of it is come to be so usual and customary. But no less Regard is to be had to the other Symptoms at the same time that they be compar'd with one another, especially in the Morning, or at Night, after the first accomplish'd Digestion, and when all the Blood has frequently circulated through the Emulgents, which it must do in seven or eight Hours ; being always assured, that the Urine is neither alter'd by Food or Medicines, the Urinal or the Air ; all which make their Specificall Alterations in this Excrement, especially the last ; which, as was before observ'd, congeals it when it is too cold, and attenuates it when it is too hot.

Neither is Urine to be inspected immediately after it is voided, for then it discovers nothing almost but its Colour ; so that some Time is necessary, that its Contents may be separated and distributed to their proper Places, according to the Diversity and Gravity of their Parts, after the Motion that was impressed upon them, by that of the Blood is taken off. And when it is too old, or long kept, its natural State and Texture may be alter'd by a supervening Putrefaction, which

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renders the Observations that are made upon it false and uncertain.

And lastly, some Regard is to be had to the Changes and Alterations made upon Urine by Drink and Medicines. For those that are made with Rhubarb, Saffron, Wormseed, in Cyder and Wine, dye the Urine with a red Colour: As on the other hand, small Drink, drank plentifully with any Acid, dilutes and renders it limpid beyond Expectation. And * *Bartholinus* observ'd, That Urine was made black by a liberal eating of Berries or too many Grapes; as 'tis tinged with a bloody Colour by eating the *Ficus Indica*; and the Effects of Asparagus and Turpentine are well known.

It must always be remember'd, (as said before) that Nature cures Diseases; and the only way to do the Patient Service, is to assist Nature, and forward her that way which she inclines. Neither does Nature always want the Physician's Assistance, but is sometimes rather hinder'd in her useful and beneficial Motions, than assisted by some of her profess'd, but ignorant and mercenary Servants †. For Nature is very wise, and can't endure the least thing that is hurtful or disquieting. A little Dust in the Eye disturbs all her Oeconomy, and no Rest is

* Cent. 5. Hist. 90. † Dr. SPRENGELL.

to be expected till it is out. A small Crumb of Bread that goes not the right way, but is by some Motion, or the Agitation of a little Air, thrown into the Wind-pipe, does it not endanger Suffocation? What Endeavours are made to cast it out? The Air breaks forth with Violence from the Lungs, the whole Body is shaken; all its Parts are in Motion; the Face is inflam'd; the Eyes run with Tears; Convulsions follow; and this admirable Masterpiece of Nature is all in Trouble and Disorder; and all this for a Thing in Appearance most inconsiderable. A Stone, or a little Sand in the Reins, Ureters, Bladder or Urethra, will scarce permit a Moment's Rest for the violent Pain: And, indeed, our Life may be call'd an Image of Death, so long as a Stone is lodg'd in any of these Parts: So true is it, that Nature abhors what disturbs her. 'Tis certain, that the whole Business of a Physician is either to add or diminish the Quantity, or to temper the Quality of the Humours that cause the Disease. And therefore his principal Enquiry should be, to know the true Cause of the Disease. But Nature would struggle hard, and do a great deal towards the Relief of many Distempers, where a proper Diet is us'd, would not confident Undertakers, without Knowledge and Judgment, interpose their impertinent and noxious Medicines, by which they pervert the whol-

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some Operations of Nature, opprefs her Strength, and by their ill-chosen Remedies put a curable Disease beyond all Hopes of Recovery.

A Native Genius, says one, and Capacity, accompany'd with a competent Degree of Learning, must conspire to make an accomplish'd Physician; but if these are separated, the first improv'd by Experience is far preferable to the last: A Man by Nature dull and unanimated, let his Head be never so much stuff'd and crowded with old Authors, Scholastic Ideas and Common-place Book Collections, will never acquire any tolerable Qualifications for the Profession of Physick: An accurate and distinguishing Knowledge of Pharmacy, the Nature of Drugs, and the Manner of preparing and mixing them in due Proportion for making of compound Medicines, is what the Physicians should labour to be acquainted with: And after a due Knowledge of Experimental Philosophy, Anatomy and Chymistry, the greatest Part of the Doctor's Accomplishments must arise from Practice and Observation.

Health is the uniform Circulation of the Blood, and the consequent Derivation of the several Liquors secreted by the Glands, in their natural and due Proportion; and any Irregularity of Excess or Defect herein induces some Sickness and Diseases; and, I believe, most, if not all Chronical Distempers

pers proceed from Obstructions in some Part of the Body.

The Sources of Chronical Distempers, says a learned Physician*, are, first, Viscidity in the Juices, or the Over-largeness of their constituent Particles, which not being sufficiently broken by the concoctive Powers, stop or retard the Circulation : Or, secondly, too great Abundance of sharp and acrimonious Salts, whereby the Juices themselves are render'd so corrosive, as to burst or wear out the Solids : Or, thirdly, a Relaxation, or Want of a due Force and Springiness in the Solids themselves. An Excess in Quantity begets the first ; the ill Condition of our Meat and Drink the second ; and both together, with want of due Labour, the third.

But tho', as 'twas said before, a Physician's chief Business respects the Fluids, yet the Solids are much to be regarded, as fully appears from that above-mention'd Book of *Baglivi's De Fibrâ Motrice, & Morboſâ*, a Character of which, and Reasons for this Doctrine of the Solids, is justly given by a late Writer †. In it (says he) he gives us Hopes, not of opening a pleasant Scene of Physick, to divert our Fancies, but of discovering a Track of rich, tho' long uncultivated Land, Others may seem to have

* Dr. CHEYNE. † B. BEALE, M. B.

touch'd

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touch'd upon the Coasts, or to have seen at a Distance, but he only actually to have taken full Possession of it ; or at least, to have travell'd thro' it, I mean the Doctrine of the Solids. I speak this in the utmost Sincerity, and without the least Flattery, being satisfy'd by the Specimen, that he has favour'd us withal, that his Undertakings are truly great and noble. His general Division of Diseases into those of the Fluids, those of the Solids, and those of a mix'd Nature, in which both the one and the other are ill affected ; tho', perhaps, one primarily, and the other but secondarily, seems to me easy and natural, and, in one Word, the best of any yet extant : 'Tho' I am not insensible, that this general Division must and will admit of various and numerous Subdivisions, to render it serviceable to the effectual promoting the Practice of Physick.

For my own part, I must own, when I consider what Disproportion in Quantity there is between the Solids and Fluids in human Bodies, I cannot persuade myself to believe, that the said Solids, like senseless Matter, are only passive in all the Affects that disturb our Natures, but am forc'd at least to suspect, that the Disorders of the Solids are the main, and sometimes the sole Causes of many of those troublesome Diseases and Symptoms, which render our Lives uneasy.

For

For some kind of Illustration and Confirmation, of what I have here asserted, I desire any serious Person with me to reflect upon, and duly to consider, 1. What uneasy Symptoms but one Drop of any potable Liquor, or but one Crumb of Bread falling upon the Top of the *Aspera Arteria*, will in a Moment of Time produce? Can that violent convulsive Cough, which attends such an Accident, proceed from any thing else but the immediate Irritation of the Membranes, first begun in the *Trachæa*, and the Parts adjacent, and from thence successively communicated to the Lungs themselves? Is it possible to enter the Imagination of any one, that will but give himself Liberty to think, that so innocent a Thing as either of them is, can create in such an Instant such prodigious Disorders in the Fluids contain'd in the Lungs, as to excite violent and such lasting Explosions? But to put this past all manner of Doubt, viz. that the Solids are only here concern'd, and not the Fluids, it will not be amiss to take Notice, that all this terrifying Emotion ceases as soon as ever this Crumb of Bread or Drop of Liquor can by any means be totally discharged out of the *Larynx*, in almost as small a Punctum of Time as it began; whereas, did it really proceed from any Fermentation or Rarefaction of the Fluids, a much longer Interval must of necessity

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cessity be required, for the ceasing of the one, and for the Condensation of the other. And for a second Instance ; I would desire any one to consider, with what Celerity the Efficacy of but a small Pinch of Snuff, especially if it be keen, drawn up into the Nostrils of one not accustomed to it, is from thence transmitted to the Lungs, by a momentaneous Communication of the Irritation from the Membranes of one Part to those of the other. Can the short Cough, which so immediately succeeds the sniffing up but a little finely pulveriz'd Tobacco, be owing to any Rarefaction in the Blood or other Fluids, which there is not a Space of Time allow'd to effect, considering, that before the suppos'd Rarefaction can be produc'd, due Time must be allow'd for some Particles or Effluvia of the Tobacco to permeate the Membranes, and thro' the Tunicles of the Vessels to creep, shall, I say, or rather fly into the Fluids themselves ? Or does it not rather really, I had almost said visibly, proceed from an immediate violent Crispation, Corrugation, or Oscillation of the Membranes of the Nostrils, communicated directly to the Membranes of the *Larynx*, and from thence to those of the Lungs themselves ; just as we see the striking at one End, or in any Part of a String of any Musical Instrument, if sufficiently tense, will make it communicate its Vibration *ictu oculi citius*,
from

from thence the whole Length of the said String?

We must therefore have Regard to the Atomy of the Solids, as well as to the Pecancy of the Fluids.

I can't let slip giving you the Opinion of the last mention'd Author, in relation to Mathematical Learning, as necessary now thought by our most famous modern Physicians, to qualify a Person for the useful Profession of Physick.

I am not ignorant, says he, that there have been some Endeavours of late Years, to treat of Medicine mathematically, and consequently demonstratively. This, I confess, would be a truly noble Work, could it really be effected, if for no other Reason, yet for this, that we should be oblig'd to believe nothing without full Demonstration; which by its convincing Proofs would put all Things out of Dispute. How far this generous Design may in time succeed, I cannot tell; but, by what I yet have seen, am fearful it will require some Ages to render it intelligible and useful to the World. I readily own, that I have gone through the new Theory of Fevers of an ingenious Author, as he requires, with a moderate Attention; and tho' not quite destitute of a Smattering in the Mathematicks, (another Qualification wished for by him in his Readers) yet am perfectly at a Loss how certainly to discover
the

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the natural Dimension of the Canals in human Bodies, even in a healthy State, (being fully satisfied that those Dimensions may be, and really are various in different healthy Persons) and much more accurately to determine the various Degrees of Contraction and Dilatation ; which may, or actually do produce Indispositions and Diseases. Nor can I tell what little Messenger to dispatch into those internal Regions, in order to satisfy my necessary Curiosity in those Particulars ; and yet, without a right Information herein, I never can, according to this Hypothesis (for I can call it by no other Name) certainly adapt my Medicines, did I know the Virtues of them never so fully. If it be reply'd, that those Enquiries are to be satisfied from the Calculation of the Symptoms, and of the Intenseness and Remissness of them ; this, I humbly conceive, will be so far from reducing Medicine to a Mathematical Certainty, that, if I am not grossly mistaken, it will leave it to be as purely conjectural as ever it found it, and only dress up the old Dish with a different Sauce, or at best but in a different Manner.

The more frequent Dissection of Morbid Bodies is what is much wanting in relation to the finding out the Causes of Diseases. *Optandum esset*, says a very learned Physician *, *ut, quemadmodum hæc sanorum, ita &*

* Dr. FREIND de Morb. Popular.

illa morbidorum corporum accurata inspectio apud nos in consuetudinem veniret : etenim res minimè controversa est, lucem esse omnem ab arte Anatomicà petendam, quàm medicus morborum plurimorum & proprias sedes eruere possit, & signa legitima internoscere. And the famous Baglivi is of the same Opinion; *Denique monemus,* says he, *summam lucem afferre ad detegendas morborum occultas causas.—Et sanè fateor morbos quamplurimos chronicos, vix ac ne vix quidem certò manifestari posse, nisi cadaver secetur.* And before these, Celsus rightly says, *Facilius omnium interiorum morbi, curationesque in notitiam venient, si prius eorum sedes breviter ostendero.* What shall we think then of those Quacks that know nothing of Anatomy; that Tribe of Pretenders, who make a Trade of Providence; live on the Sorrows, and thrive on the Miseries of Mankind? Who ought to consider, that they are but fattning for the Slaughter; and that as they have done, so God may one Day requite them.

But to leave these Men-flayers: 'Tis worth observing how the Knowledge of the Parts of the Body contributes towards the Disorders it is so often subject to, and that violent ones too: As for Instance, as the Intestine, called *Colon*, (from whence is nominated that painful Distemper the Cholick,

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lick, which I have often cured, like a Charm, with a Turpentine Clyster); I say, as that Gut encompasses the *Abdomen*, and together with the *Rectum*, touches all the Parts of it; it is with good Reason to be suppos'd, that by the immediate Fomentation by Clysters, many Distempers of that Part may be cur'd: and from the Situation of the first mention'd Intestine, 'tis plain, that the Patient is to lie on his right Side, otherwise it will not succeed as it should do.

From the Knowledge that we now have of the Veins and Arteries, 'tis manifest, that, generally speaking, 'tis no matter out of what Vein Blood is taken; not but Topical Bleeding is in some Cases very useful. The Ancients were certainly in the wrong, to think that the Veins in the Arm had a more special Communication with some of the internal Viscera, as with the Head, the Liver, the Spleen, &c. and therefore gave those Veins the Names of *Cephalic*, *Hepatic*, *Splenic*, &c.; whereas Anatomy shews us, that they have no greater Communication with those Parts than other Veins have. What is called the Cephalic, is the safest to be open'd; next, the Basilic; but the middle Vein most dangerous, because it has both an Artery, Nerve and Tendon under it. Vast Service has been done to the practical Part of Physick by the Discovery of the Circulation of the Blood by the immortal
Harvey;

Harvey; Cujus nomen tamdiu stabit, quamdiu movebitur sanguis, & in orbem agitur è corde in arterias, ab arteriis in venas; à venis in cor, refluxo cursu rediturus.

From the Knowledge likewise of the Lacteal Veins, we may know the Causes of several Distempers; (and the Cause being known, the Cure is easy). For Instance, a Consumption in Children has its Origine often from the scrophulous Glands of the Mesentery, occasioning Obstructions in those milky Veins; as an eminent Writer on that Disease *, gives us the following History:

A certain Citizen's Son, in the Street commonly called *Woodstreet*, being about four Years old, seem'd, without any Fever or Cough, to be brought by degrees to the highest Degree of a *Marasmus*; but his Belly was unequally hard, and swell'd, his Urine very little in Quantity, yet of a good Colour; his Stools frequent, large, and plainly chylous; nevertheless his Appetite continued good, or rather greedy, all the time of his Illness: Whereupon, says he, I did easily conjecture, that the Passage of the Chyle thro' the milky Veins was much hindered by the many and very large glandulous Swellings plac'd up and down in his Belly, and that his Consumption had its Origine from the Evacuation of the Chyle

* Dr. MORTON'S Treatise on Consumptions.

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caused in this manner: He order'd the *Empl. Diasaponis* to be apply'd to his whole Belly, and the following Julap to be given him plentifully and frequently. "Take
 " Parsly-Water, Fennel-Water, of each four
 " Ounces; the Magisterial Water of Earth-
 " Worms, Syrup of the five opening Roots,
 " of each two Ounces; of the purest Salt of
 " Amber, very well freed from the Oil, half
 " a Dram; mix them, and make a Julap." This Liquor he very greedily coveted beyond all Expectation, plainly refusing any other; so that in the Space of twenty-four Hours he drank up double the Quantity of the Julap that was prescrib'd. Upon which he made Water at a strange rate, and had fewer and less chylous Stools, the Swelling of his Belly falling at the same time; and in a short Space, with the frequent and plentiful Use of this Julap and torrified Rhubarb made up into the Form of a Bolus with Diafcordium, the little Boy was freed from his *Marasmus* beyond the Expectation of all his Friends. He gives us another successful History of the same Kind, but says, That the Child's Belly was very much swell'd, and unequally tumified, every where full of Swellings, which were dispos'd here and there in Clusters, which yet could not be discern'd without pressing very hard with one's Fingers.

The

The Ancients likewise err'd, in thinking that the Brain was the Seat of Phlegm; and that several Distempers of the Head proceeded from thence; and therefore, *omnibus nervis* they endeavour'd, by Etrhines, Sternutatories and Masticatories, to purge it from that gross Humour: But Anatomy plainly shews, that the Brain is not the Seat of Phlegm, nor has it any Communication with the Nose or Mouth.

It manifestly appears, from the great Plexus of Nerves in the Stomach, what a Sympathy and Communication there is between the Stomach, the Head, the Heart, and other Parts of the Body; hence the Stomach in several Diseases is affected with Sickness, Nauseousness, Vomiting, &c. as in the Hypochondriacal and Hysterical Passions; in a Fit of the Stone; in the Choleric, &c. *Νευρολογία itaque non est negligenda.*

I shall at present only mention two Instances, whereby 'twill appear, that the dissecting of morbid Bodies lets us into the Knowledge of the diagnostic and the prognostic Part of Physic; and I can by no means be of that poetical Doctor's Opinion*, That tho' Anatomy is a very curious and delightful Amusement, and highly necessary for the Accomplishment of the Surgeon, yet a very

* Sr R. BLACKMORE.

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minute and extensive Knowledge of it, is what an able and skilful Physician may be without. But to return: The first Instance I shall give, is of a Nobleman, who was afflicted with no common Shortness of Breath, and was always better in Bed, or in a decumbent Posture of Body, than sitting or standing; whereas in those that are Asthmatical, we find the contrary; for they breathe with more Difficulty when they lie down; the Motion of the Muscles of the Breast being freest in an erect Posture. Upon Dissection it appear'd, that both the Cavities of the Breast were full of Water; which Water pressing too much upon the Diaphragm, in a standing or sitting Posture, was the Reason why Breathing was not perform'd without great Difficulty: but in a lying Posture, that fluctuating Burden was so disposed, that Nature could better perform her Office. This Symptom therefore seems to be an infallible Diagnostic of a Dropsy of the *Thorax*; and by which it may be easily distinguish'd from all other Distempers of the Breast, where there is a *Dyspnœa*. As to the Cure of this Disease, *Baglivi* says, he cured one that had been a Twelve-month under Physicians Hands to no Purpose, only by a Diuretick Decoction of Plants; his Words are, *Solâ decoctione nonnullarum plantarum, & peculiari præparatione oxymelitis scillitici, educto per urinas copioso*

copioso sero, mensis spatio virum 40 Ann. ætat. Hydrope pectoris, cum ingenti pedum, femorum, faciei, & manuum tumore, maximâ spirandi difficultate, febre, vigiliis, &c. laborantem, perfectè sanavimus. That a *Paracentesis* may be safely perform'd, is the Opinion of a great many Physicians; I shall mention but one †: *In pectoris hydrope*, says he, *non video, cur non liceat per acum argenteum cavam in thorace innoxiam instituere paracenthesin; ex tali namque vulnere parvo nil periculi imminet aegro.* *En Anatome, verus medicinæ oculus!* The second Instance is in relation to the prognostic Part; and here we may learn from the repeated Dissection of morbid Bodies, That the Palpitation of the Heart and other Affections of the Heart and Lungs, if they proceed from an Organical Cause, as a *Polypus*, *Aneurisme*, &c. the Patient is subject to those Palpitations, &c. not by Intervals, but continually; the Face will be pale, or of some other morbose Colour, with other Symptoms not unlike to the Dropsy. Whereas if it is the fluid Matter, which often occasions such Palpitation, &c. by its Acrimony and Irritation, the Patient is only affected by Intervals; the Colour of the Face is natural; neither is he troubled with any violent and continual Symptoms. How easy then is the

† SYLVIUS DELEBOE.

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Prognostic in this Case? the former Cause admitting no Cure, whereas the latter does, *En Anatomia usus ad morborum prognostica!* I could give a great many other Instances of the great Usefulness of dissecting morbid Bodies; but I shall at present content myself with only one more, being not willing to swell this into too large a Volume, lest I should incur the Reader's Displeasure, by misemploying his Time or his Money in the reading, and by buying what perhaps upon perusal he may judge worthless. 'Tis this; Upon the Dissection of an Infant that was troubled with Convulsions, 'twas observ'd, that the Glands of the *Plexus Choroides* were very much swell'd, and full of Serum; so that thro' the whole Brain there were manifest Signs of an extravasated Serum, which falling amongst the tender *Fibrillæ* of the Nerves, might probably by its Acrimony occasion this generally fatal Distemper, especially in *London*: Hence we may account, how Blisters may be of great Service, besides other Means to evacuate that acrid Serum. But, as I mention'd before, the same Distemper may have very different Causes; for as that excellent *Italian Hippocrates* * well observes, (and I have known it true by my own Experience); *Omnes, says he, ferè convulsiones infantum à stomacho fiunt, unde iis statim*

* BAGLIVI.

morbum solvunt lenia purgantia, præsertim infusum Rhabarbari. And I would recommend the following Powder. Take *Valerian-Root* ʒ℞. *Seeds of Rue, Myrrh, Castor Rust. White Amber ana* ʒij. *Native Cinnabar* ʒj. *m. f. pulvis.* 'Tis better than that so much commended by *Baglivi*: *Pulvis*, says he, *de gutteta, specificus est in morbis convulsivis, nec non vertigine, cephalæa, gravetudine capitis, &c.* Tincture of Antimony is of great Use, especially if the Child be feverish, otherwise volatile Diaphoretics have been of use. But I must leave Dr. *Sprengell's* Observation with you, in relation to the dissecting of morbid Bodies. It has been the Folly, says he, of a great many, who upon dissecting a Corps, took the Part that was most affected, to have been the Cause of the Person's Death. But we ought to consider, that while a Man is racked to Death by a Disease, there may happen strange Alterations both of Solids and Liquids. Thus some have ascrib'd a Dropsy to the Liver as the Cause of it; others to the Brain; others to the Stomach; others again to the Mesentery, Spleen, Kidneys, &c. because they saw some one of these Parts mostly affected by the incumbent Water. Thus some have concluded, that an Asthma proceeded from the Water they had found in the Ventricles of the Head, Breast, or Abdomen. And so again, a Fever is generally ascrib'd to a

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dry,

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dry, thick Blood, because they find none but such in the Veins ; whereas these Accidents are merely produc'd by the greater or less Violence of the Disease. And our famous Glisson observes, *Et profecto anatomici frequenter in suis observationibus lapsi sunt, dum, quæ ad alium morbum spectant, alteri, cum quo ante obitum complicatus erat, adscripserunt.* And, as a good Anatomist observes *, *Quod commotio cerebri haud cruenta, lethalis tamen, autopsiæ minus pateat. Spem nempe augurantium ipsa inspectio fallit, & eorum fiducia atque expectatio in stuporem vertitur, ac si cum ipsa anima, mortis occasio evolasset.* And to mention one Author more † ; *Ut taceam denique, ejusmodi interdum in cadaveribus deprehendi interaneorum à statu naturali recessus, de quorum symptomatis vivi nunquam conquerebantur, quosque in iis nec accuratior diagnosi haviolari poterat.* Ita memini, me pulmonum compagem sæpius solidiorem justo, glandulosam, item pleuræ, ac costis enormiter, & undique adnatam, vidiſſe, homine superſtite nunquam tussi, dyspnœa, similive thoracio pathemate afflicto, imo ad cursus, cantus, similesque motus quam agili; quemadmodum superioribus demum mensibus in puero cachectico, & hectico, qui sine ullis nihilominus pneumonicis symptomatis obierat, pulmones valdè suppuratos me deprehendiſſe recorder. Calculos frequentius exhibent

* BARTHOLIN. † JOHAN. BOHN. de Offic. Med. cada-

cadavera illorum, qui vivi nullam unquam dysuriam, ischuriam, lumborum, ac inguinum dolorem, nauseam, vomitum, similiaque pathemata nephritica experiebantur: sicut ex amici calculosi, quem nephriticum omnes judicabant, in quo tamen nullum unquam per totidem annos, quot diris admodum symptomatis cruciabatur, calculi vesicæ signum, ut ut in hæc frequentius inquiriretur, comparuit, post diuturnos demum circa lumbos, & tandem in inguine dextro cruciatus diros, nullos in regione hypogastrica, defuncti, vesica urinaria præter lapides renales diversæ molis, calculum ponderis aliquot unciarum protraxi. So true is the Observation of one of the Ancients *, nothing is more foolish, than to think that a Man has been so in his Life-time, as he is found when he is a dying, or already dead: So full of Perplexities is the Art of Physick; for some Things in Physick as well as Divinity, lie so deep as not to be fathom'd by the short Line of finite Understanding.

Pharmaceutical Knowledge is an indispensable Qualification of a true Physician: For as one observes †, A Physician without Skill in Pharmacy implies a Contradiction; it is to say, a Man can cure a Disease who is unprovided of the Means. Such a Physician is like what a Painter would be, without knowing the Use of Lights and Shades,

* CELSUS. † Dr. SHAW.

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Pencil and Colours : And I'll venture, says he, to lay it down as a Maxim, that Physick will tend to Perfection in Proportion as Pharmacy flourishes. I shall instance in one Thing of no small Moment, and that is in the great Usefulness of the Decoction of the Bark beyond any other Form of giving it, (which my own Experience has sufficiently convinc'd me of). But I think fit to mention it in the Words of one who was well vers'd in Pharmaceutical Knowledge *. There is somewhat, says he, peculiar in the *Cortex Peruvianus*, that fits it for Decoction beyond any other Simple of the same Rank; its Particles are so very fine and light, when broke in the Mortar, that a great deal would be lost, were it not for a Mixture of somewhat moist and oily to keep it from flying away, which is commonly practis'd with Almonds, or somewhat of like Nature; but this is certainly prejudicial to the Medicinal Intention of this Drug. But in Decoction with an aqueous Vehicle, this finer Part is not only saved, but likewise all that is most subtile therein suspended in the Liquor, the grosser Parts only falling to the Bottom ; as is very manifest from the Thickness of such Decoctions. So that in ordering this Decoction, there is only obtain'd the Finest of its Substance, which cannot be procur'd any

* Dr. QUINCY's Præl. Pharm.

other way ; a thing very different from what is commonly expected by this Process : for here the Ingredient is in some measure dissolv'd, and intimately united in the Liquor. Doubtless in the Management of this Drug by Decoction, somewhat more is obtain'd than can be got by simple Tincture, especially where such Ingredients are added, that by boiling give a thicker Consistence to the Water, because then a much greater Quantity of the Bark will remain suspended therein. Thus some order a small Portion of Storax or Benjamin to be boiled herewith, which not only enables the Liquor to hold up more of the Bark, but gives also thereunto such a Warmth and Scent, as is very grateful to a Stomach weaken'd and pall'd by a Fever and Medicines. The usual Distrust therefore of the Bark in this Form is ill grounded, because it depends upon a Supposition, that it is not this way given in Substance ; whereas it is not only thus given in Substance, but also with greater Advantages than can by any other Means be come at. For when it is given in the finest Powder that can possibly be obtain'd from the Mortar and Sieve, it is yet too coarse for a weaken'd Constitution, and therefore frequently by its *Stimulus* brings on a *Diar-rhoea* ; whereas this Way, it is too fine to give any such Disturbance in the first Passages, and not only strains by the common Course

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Course of Circulation much farther, but gives a more uniform and general Contraction to the debilitated and relaxed Fibres. Those who try it this way also, seldom find so many Relapses, as are customary after some Days, with the coarser Powder; and says, a very considerable Addition may be made to the Medicinal Virtues of the Bark in Decoction by a Mixture of Acids, because they greatly improve any Astringent or Styptic Quality, but especially in that of a Styptic in Hæmorrhages; in which Case also, an Addition of Red Roses, at the latter End of the Decoction, is not only of Service, but also helps agreeably to disguise the Medicine. I cannot but mention one Passage out of the same Author, which gives a very rational Account of the Operation of some Medicines, and strikes at the Root of those enormous Errors, which are so often committed in prescribing the standing Medicines. The most obstinate Distempers, says he, and those which most elude the Force of Medicine, have their Seat in the minutest Vessels, and in the most remote Scenes of Animal Action: Medicines therefore, which either spend themselves in the first Passages, as all the coarse *Stimuli* do, or have not Moment enough from their Specific Gravities, when farther divided, to force through the minute Canals, - as the Vegetable Sudorifics are found not to have, will neither of them
answer

answer in such Cases ; so that the sole Art herein seems to consist in procuring Medicines, not irritating enough to affect the larger Vessels, but capable of sufficient Comminution for their Conveyance into the most minute ones, and with Moments sufficient to conquer such Obstacles as lodge therein : And these seem most likely to be had from the Union of metalline with saline Particles : And whether a Medicine of this Texture and Property answers these important Intentions by any greater Inclinations to attract and join with some Particles of the Animal Fluids, whereby they obtain more Weight and Impulse, whilst in Motion, than those of a lighter Make ; or by their proper Specific Gravities, without such an Union, comes to the same Thing, as to their Power of conquering Obstructions ; because in either Case the End is answer'd by procuring a greater Impulse against the Obstacle than before subsisted in the moving Fluid. It is much to be wish'd, that this Hint had not been more improv'd amongst Empirics, than in regular Practice ; but certain it is, that with their Contrivances to remit the Operation of these most efficacious Materials in the first Passages, they sometimes do such Things in Chronic Cases, as are no great Reputation to better Opportunities of Learning ; whereas all the Officinal Preparations are left so coarse, that we can
do

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do little else than purge or vomit with them. And here Dr. *Shaw's* Observation is good, and worth your Notice, *viz.* considering how apt some People are to confound the rational Prescriber with the ignorant Practitioner, it may be proper to observe, that a true Physician ever goes warily to work, and proceeds upon a just and solid Foundation: He first gets a Knowledge of the Seat and Cause of a Disorder; and at these he levels his Prescription: If the Case prove obstinate, he augments the Force of his Medicaments, and varies them as Circumstances alter, without acknowledging an End to his Art; he has always some promising Remedy in reserve, and can, from Rules of Analogy, directly attempt the Removal of Diseases unseen before. The Empiric, on the contrary, is destitute of a Basis to support his Proceedings; he is puzzled and confounded at every Accident that turns up, and a new Case throws him quite out of his Byas; he has but very few Remedies to trust to, and these he directs at all Adventures, without pursuing any form'd Design, or without regarding the Seat, the Cause, or State of the Disorder, and the Circumstances of the Patient: If happily his Medicines succeed, it is well; but if they fail, he is at the Extent of his Cord, (but deserves one) he has done his Utmost, and your Case is desperate. If therefore, says he,

he, the Physician would merit Esteem, keep up the Reputation of his Art, and rescue it from the Hands of Ignorance, Superstition and Boldness, he must of Necessity study Pharmacy, or the Way of managing the various Productions of Nature to the greatest Advantage. In relation to which, I shall mention the Sentiments of one * who had but a slight Opinion of Chymistry, Botany, and even of Anatomy: But says, an accurate and distinguishing Knowledge of Pharmacy, the Nature of Drugs, and the Manner of preparing and mixing them in due Proportion for making of compound Medicines, is what the Physician should labour to be acquainted with: The rest, and the greatest Part of the Doctor's Accomplishments must arise from Practice and Observation.

(Senna is said to purge off Melancholy more than other Humours; which if true, is, perhaps, because it consists of fix'd Parts that have a greater Disposition to unite and adhere to this Humour, which is fix'd, and earthy, and by irritating the Parts wherein it is chiefly lodg'd, cause its Excretion.) But it must be remember'd, as one observes, that there is a certain *Modus*, a nice *Secundum Artem*, in duly preparing Medicines, which is as impossible to be learnt by dry

* Sir R. BLACKMORE

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Precepts without manual Operation, directed by a *vivâ voce* Instruction, as it is unlikely a Man should become a famous Fencer by Contemplation and a serious Study of *Agrippa's*, or any other great Artist's Posture-Book. And, indeed, without this Knowledge, how many Errors of very bad Consequence are committed?

'Tis worth observing, that in order to infuse any fine, fresh, aromatic Vegetable, so as at the same time to preserve its odouriferous or native Spirit, 'tis an effectual Way to perform the Operation in a Glass-Egg or Vial, with such a long Neck that the ascending Vapour cannot rise high enough to escape. By this means Infusions are render'd much richer, and more serviceable in Medicinal Cases than could have been expected from the common Method of making them: And the Water for Infusion should not be poured boiling hot upon the Subject, because in that Case it would dissolve too much for the resinous or oily Parts thereof; whereas 'tis principally the saline Portion of the Plant that we require from this Operation: which Portion could not so well be taken up by the Water, if it was impregnated with unctuous or resinous Particles; for Oil, in great measure, prevents the mixing of Salts with Water: Besides, if the Water should be pour'd on too hot, it might, in a manner, burn up or scorch the Surface

Surface of the Subject, and induce such a Crust thereon, as would not permit the Plant to give out its Virtue. And as to Decoctions, if they are prepar'd with a violent Fire, and in an open Vessel, some Part of the natural Taste and Smell of the Subject flies off every Moment; which is an Observation of great Use. For Instance, in order to gain the Virtues of Sassafras-Wood by Decoction, a proper Quantity, as for Example, about an Ounce, being first rasp'd, or reduc'd into thin Shavings, shou'd, in a close Vessel, be put to boil in a Quart of pure Rain-Water, for the Space of half an Hour. If the Operation were continu'd longer, and the Vessel not well clos'd, the Scent or fine aromatic volatile Part would in great measure be lost to the Apozem. The closer, denser, and heavier the Drug is, and the more Oil or Rosin it contains, the less fit it is for Decoction, and the longer it ought to be kept in Infusion or Digestion, to prepare it for that Operation; wherein likewise it must be longer detained before it will give out its Oil. Thus for Instance, Guaicum-Wood must be infus'd for twenty-four Hours, and then boil'd for six more, before it will yield its Rosin by Decoction, so as to fit it for the Cure of the Venereal Disease.

The fresher, softer, and more juicy any Vegetable is, the better it is dispos'd for In-

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fusion or Decoction ; but on the contrary, such as are dry and old, appear less fit for either. But Dr. *Quincy* says, That Ground-Ivy, for Instance, pick'd clear from its Stalks, and carefully dry'd, is much better than when it is green, and will make an Infusion stronger and finer, because its saline Parts will not by much so soon mix with a foreign Fluid, when they are as it were dissolv'd in the natural Juice of the Plant while 'tis green, as after that Juice is dry'd away ; and in those Parts its Medicinal Efficacies consist. On the other hand, the great *Boerhaave* says, That in a recent Plant, the Salt and Oil are mix'd together ; but in dry'd Vegetables that have been long kept, there remains scarce any thing but Oil ; or if any Salt happens to stay behind, 'tis so mix'd and blended with the Oil, as to require a deal of boiling to fetch it out. Thus, says he, the Guaicum-Wood, as it is fresh cut from the Tree in the *West-Indies*, will, in half an Hour's Time, communicate a larger Proportion of Salt to the Water wherein it is boil'd, than it would here in *Europe*, where it can only be had dry and hard, by being boil'd ten times as long. And hence, perhaps it is, that the Decoction of this Wood proves so much more successful among them in the Cure of the Venereal Disease than it does among us.

'Tis

'Tis observ'd, that if Infusions and Decoctions are drank down warm, (*Baglivi* orders them to be drank as hot as possible in Epidemic Pleurifies) they will be made to act by the general Virtue of heated Water, which in the human Body is highly deobstruent and diluting, as well as by that which is peculiar to the Plant, and so prove a Means of conveying it farther. And it is very manifest that such Medicines readily mix with the Blood and Juices, because, if a Woman who gives Suck, should take the Infusion or Decoction of Senna Leaves, her Milk would, in two Hours Time, purge the Infant at her Breast.

'Tis observ'd, that bitter, stomachic Infusions are best order'd without Heat, and commonly in Liquors moderately spirituous, as the ordinary White-wines. And it is a certain Rule, never to sate a Liquor with Ingredients beyond what is agreeable to the Palate, for an irksome Cordial or Stomachic almost implies an Absurdity; tho' in Histeric Cases, and where the foetid Simples are required, the Case is quite otherwise. And Decoction is not so proper for Cephalics, &c. because it exhales the more volatile Parts in which all those Intentions consist.

'Tis the Observation of an anonymous Author, That great Discretion is required in giving any quieting Remedies in Fevers; they are Edge-Tools, not to be trusted in

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every Hand ; because I have seen dismal Accidents attend a small Dose of Laudanum improperly given. I hold it safe to procure Rest by a Blister in slow Fevers than by any Opiates : It is true, you gain your Point, but then the Patients continue to rest longer than can be wish'd for. They are, however, sometimes necessary ; and then they must be wisely blended with such Remedies as attenuate the Mass, and such as will hinder its Stagnation : Hence, when no Expedient will answer to procure Rest, and there are Fears that the Patient will begin to rave for Want of Rest : Venice-Treacle may be given to procure Rest, and at the same Time to expel the Fever and its Cause by the Pores : Of which Medicine *Quincy* says, It is a good Opiate, and may more safely be taken than many of the plainer Opiates, in Cases that require some *Stimulus* to be us'd at the same Time, with such Things as procure Indolence ; because such alone are apt to occasion Stagnations, and other Inconveniencies. But then this must be observ'd, That Medicines that promote Sweat, ought never to be given in common Fevers till the Water subsides. This is universally true in slow, or other Fevers that are of a common Stamp. And as Blisters are very pernicious in Fevers of the hot Kind ; so without them, in Fevers of slow Kind, nothing can be done, as daily Experience convinces
Mankind ;

Mankind; and where-ever any Symptoms attack the Patients, they must sink without their Assistance. But then on the other hand, to apply them, as some do, in hot Fevers, by way of Revulsives, is Nonsense: For if the Blood be plentiful, or if the Motion of it be violent, Bleeding surely is what we must revulse by: If indeed Humours only abound, and there be no great Heat in the Blood, Cathartics and Blisters are requisite.

Our late Physical Writers (especially the Mathematical ones) deny any Fermentation in the Blood in a natural State, or in the Body. But nothing is more evidently made out; for the Heart which communicates the Blood to all the Parts, the Formation of the Bile, Saliva, and other Humours within it; its Rarefaction, which is sensibly increas'd, either by the sole Influence of a warm Air, or by a Variety of other Causes. These several *Phænomena* cannot be ascrib'd either to the bare Motion of Fluidity, to the protrusive Motion, or to the Motion of the Solids; they can only arise from a different Motion excited among the Particles of the Liquor itself; call it Effervescence, Ebullition, or Fermentation: For 'tis certain, Fluids of certain different Qualities cannot come together and mix, but a Fermentation must arise. The Blood, which is a Composition of various Fluids, contains se-

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veral, very capable of fermenting when their Particles meet; which cannot fail of happening, because of the violent Agitation of all its Parts, of Necessity therefore it must have a fermentative Motion.

Besides what I said of it before, a late Writer thinks, that the *Lympha* contains almost all the other Juices: For Instance, The *Succus Nutritius* of all the Solids, the *Bile*, the *Saliva*, the *Juices* separated in the Glands of the Stomach, of the Intestines, and of the Womb; the *Succus Pancreaticus*, the *Urine*, &c.

What ought to support this Opinion, is, that the red Part of the Blood does not seem united, or mix'd with these Humours; of which it is hardly capable, by reason of the globular Figure of its constituent Particles. Besides, we do not find that it undergoes any Alteration, when some of these Humours are vitiated.

We are farther to observe, That as to the *Lympha*, its ramous Particles render it very fit to entangle the other Fluids, and to hold them within its Mass: It seems to partake considerably of all the Alterations which befall them, in the same manner that these different Fluids are easily affected by the Changes which others of them undergo. Thus, when the *Bile* is no longer separated in the Glands of the Liver, the *Urine* becomes red, the *Saliva* bitter, the Parts contract

tract a Yellowness, Nauseatings and Vomiting succeed, &c. and nevertheless, no sensible Alteration is observed in the red Part, or Blood properly so call'd. Lastly, the *Lympha* is convey'd to all the Parts of the Body by proper Vessels, and afterwards it is brought back by such Vessels into the Sanguinary Veins, where it again mixes with the Blood and other Fluids.

The Definitions of Diseases, I think, are all to be laid aside, since they do not tend to give us clear Ideas of them: Would it not be better to substitute in their Place, an accurate Description of all the Symptoms which characterize each particular Disease? It would certainly be more to shew Students and young Physicians themselves, that a Man actually affected with such and such Symptoms, has certainly such and such a Disease.

Among the Symptoms that attend Acute Diseases, the Inflammation of the *Viscera* is most to be apprehended.

Both continued, and Intermitting Fevers, says *Helvetius*, are occasion'd by an Alteration in the Juices or Humours with which the *Lympha* is clogg'd; but these Humours are not thrown off all at once; part of them unite with the Lymphatic Juices discharg'd into the *Primæ Viæ*, that is, into the Stomach and Intestines. There they assemble and tumultuate; there they corrupt the Aliment;

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after which they are disengag'd, thrown into the Blood, and cause a Fever. When they continue to be thus dissolv'd, and thrown off without Intermission, they produce a continu'd Fever; but when to unfold and expand themselves, they require several Hours, or even Days, they cause Intermitting Fevers.

The Duration and Return of this last sort of Fevers depend upon the Quality of the Humour; upon the Facility and Plenty with which it disengages its self, and upon the Time it requires to get clear of the *Lympha*, and to expand itself through the *Primæ Viæ*.

We venture to lay down, that the Humours contain'd in the *Lympha*, when they disengage themselves, do naturally go off in abundance thro' the Glands of the Stomach and Intestines, and this not without Foundation; for we often meet with them in the Stomach, upon opening dead Bodies: Besides, can there be any Room to question this, if we do but attend to the Cause of several Sorts of Vomitings? As those which happen to many at Sea; which torment Women during their going with Child; but particularly those we see happen in Nephritic Pains, &c. See Helvetius's *Animal Oeconomy*, page 18.

'Tis observ'd, that upon opening Bodies which have dy'd of malignant pestilential Fevers,

Fevers, there always are found great Inflammations in the Brain, often in the Breast, in the several *Viscera* of the *Abdomen*, or in all these Parts together.

This famous Physician says, That the Vessels appointed for the Circulation of the *Lympha*, may be divided into Arteries and Veins.

He calls those Lymphatic Arteries which arise from the *Plexus's* of the Capillary Blood-Vessels, and convey the *Lympha* to all the Parts.

Those are called Lymphatic Veins, which bring the *Lympha* back again into the Sanguinary Veins.

It is commonly thought, an Inflammation is nothing but an Obstruction of the Blood in the Vessels. But how then, says he, can we account for that considerable Redness which befalls the inflam'd Part, especially when it is naturally white, and slenderly provided with Blood-Vessels? And 'tis very difficult to perceive how the Blood can stop in its Vessels; where, in a Fever especially, its Motion is so brisk and violent.

The Observation of what passeth in an Inflammation of the Eye, hath help'd us to discover the Cause of an Inflammation in general. In this Case, we see the *Tunica Conjunctiva* (the White of the Eye, as it is commonly called) all over cover'd with red Vessels full of Blood: This shews an Inflammation.

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flammation. For, in the natural State, these Vessels, which are design'd only to contain a transparent, lymphatic Fluid, are not clearly to be discern'd.

Upon this Foundation, we found no Difficulty to conceive, that this Redness or Inflammation of the Eye is caused by the Blood's having passed out of its own into Lymphatic Vessels belonging to this Part. We then reflected, that all the other Lymphatic Arteries arise from the Capillary Blood-Vessels, and distribute themselves in great Plenty throughout the Body. This Reflection made all the Difficulty we were under to account for an Inflammation, vanish at once, and gave me a clear Idea of it.

He observes the Inconveniencies of those fine Injections made in the Vessels after Death; that they often serve rather to lead us into Error, and are more for Ostentation than for Instruction and Use. They may, indeed, guide us to very important Discoveries, it must be allow'd: But they are also capable of hiding a great many Truths from us, and of stifling several Discoveries. The Confusion into which they throw the Sanguinary and Lymphatic Vessels, frequently hinders us from distinguishing them with the necessary Exactness.

By the Help of a Microscope, one may always distinguish the *Lympha* from the red Part of the Blood, in the Blood-Vessels of
living

living Creatures ; as in the *Mesentery* of a Frog ; in the Fins and Tails of certain Fishes, &c. But if the Lymphatic Arteries (as he calls them) happen to dilate, or if the Blood is put into a violent Motion, it may open itself a Passage into them ; for then its Force will be superior to the Resistance, either of the Lymphatic Vessel itself, or of the Fluid it contains.

Fevers therefore are always caus'd by gross indigested Humours, contain'd in the *Lympha*, and stagnating, as it were, in the Lymphatic Vessels.

An Inflammation is produc'd by nothing else but the Irruption of the Blood into the Lymphatic Vessels, and its Stoppage there.

He prefers Vomits to Purges for the Cure of these Fevers ; but allows that Purges enter the Blood-Vessels, and break and attenuate the gross Humours contain'd there. Our Practice furnisheth us with convincing Proofs of this ; for we see every Day inward and outward Swellings soften'd and discuss'd by the Help of Purges alone, which restore Fluidity to the thick Juices damm'd up in the Lymphatic Vessels. We are therefore to look upon Purges, as Medicines whose Virtue is to dissolve the Humours, and to evacuate them when dissolv'd.

He is for Bleeding, when rightly indicated, during the Height of the *Paroxysms* ; he says, it causes the Blood to flow more fluently ;

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fluently ; the Patient supports it with the greater Vigour, and finds himself eased that very Moment. The *Paroxysms* are by this means shorten'd, and abated, and the Sweats arise with more Ease.

He supposes that the Secretory Vessels arise from the Lymphatic Arteries, as these last do from the Blood-Vessels : And conceives the Substance of a Gland to be nothing else but a Complication of Sanguinary and Lymphatic Vessels.

All Anatomists acknowledge the Lymphatic and Blood-Vessels to be interwoven with each other. They have establish'd Secretory Vessels in the Glands. What Necessity then of supposing, or admitting, without any solid Foundation, any other Organs for filtrating the Juices ? A few Secretory Ducts, plac'd amidst the Convolution of the Lymphatic Vessels, will be sufficient for the whole Mechanism. Thus much from this ingenious Author.

The Necessity of being well vers'd in Chymistry appears from its great Usefulness in Medicine ; as the famous *Boerhaave* does manifest, by pointing out its Use in the Five several Parts whereof the Art of Medicine consists ; whose new Method of Chymistry is much the best now extant : He says that,

1. *Physiology* borrows most of its Light from Chymistry. By *Physiology* he means that

that Part of Medicine which explains the Nature of the entire Animal Machine, consider'd in its natural State. As for Instance, none but a Chymist could say what kind of Liquor the Blood is, of what Parts it consists, and by what Principle it acts; for it does not act solely as a Fluid, flowing along its Canals, according to the Laws of Hydraulics; but at the same time exerts a Force of its own; which Chymistry explains, by shewing it possess'd of certain active Principles, as Salts, Spirits, Oils, &c. wherein it differs from other Liquids: And by knowing the particular Nature and Qualities of these, a Chymist will nicely understand, and advantageously distinguish between the Signs of Health and Sicknes.

2. *Pathology* is inexplicable by any thing but Chymistry. 'Tis the Office of this Part of Medicine, to unravel and describe the Distempers incident to the human Body, and to assign their Nature, Causes, Effects, and Differences. If *Hippocrates* therefore had understood Chymistry, he would have been infinitely a better Physician than he was. He must be a Chymist to know how the Solids and Fluids, from the Beginning of the Distemper to the End of it, are alterable by Heat; and here the Skill of *Hippocrates* fail'd him. He knew not in a burning Fever, for Instance, that the Salts of the Body were dissolv'd, and the Oils render'd volatile.

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volatile. That great Author therefore, tho' well vers'd in the Phœnomena of Diseases, knew but little of their real Nature.

3. The *Semiotical* Part of Physick, or the Doctrine of Signs, is principally concern'd about the Pulse and Urine. And Chymistry here is exceeding useful. Suppose, for Instance, a Chymical Physician should find his Patient hot, and inflam'd, his Urine red, and his Pulse quick and hard; he will from hence immediately know the State of his Fluids, and beware that they tend to a State of Putrefaction.

4. *Hygiene*, which is the fourth Branch of Medicine, instructs us in the Way of preserving Health by Diet; and this intirely depends on Chymistry: which shews us, that the natural Heat of our Bodies will turn Vegetables acid, and putrify Animal Substances. That in case of an alkaline Disposition of the Blood and Juices, when the Urine appears red, smells ill, and tastes alkalious, Vegetable Acids are the proper Diet, and Animal Food prejudicial. On the contrary, if the Humours are acid, as frequently happens in Infants convulsed from a Coagulation of the Milk in their Stomachs, Broths made of the Flesh of Animals, Eggs, or the like, are excellent; whilst Vegetable Acids would prove hurtful.

5. As to the *Therapeutic*, or last Part of Physick which regards the Cure of Diseases;
all

all the genuine Indications of it are fetch'd from Chymistry alone. When a Patient is seiz'd with a burning Fever, Chymistry immediately informs us, that from the additional Heat, the Salts of the Blood become sharper; and as the Heat increases, are render'd alkaline, and the Oils more volatile and exhalable. Whence we infer, that Acids ought to be prescribed, to prevent the Putrefaction that is bringing upon the Juices: And this Indication could be fetch'd from nothing but Chymistry: And (as is observ'd in the Notes p. 199.) the *Methodus præscribendi* entirely depends upon a Knowledge of Chymistry; and to the Want of this are owing those gross Errors so frequently committed by Dispensatory Writers, in ordering the standing Medicines of the Shops.

I shall subjoin, for the Benefit of young Students, a few Observations out of this excellent Author.

He observes that no Chymical Operation is perform'd without Fluids.

Again, from infinite Observations and Experiments, it is found, that there is no Fluid without Fire; or that all fluid Bodies, as Water, Oil, Spirits, &c. entirely devoid of Fire, become Solids; consequently, if there were no Fire, all the Bodies in Nature would fix into one rigid, consistent Mass. Whence it easily follows, that all Operations
are

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are perform'd by means of Fire ; which is another universal Truth.

Again, from a thousand Experiments, made by as many Persons, it appears, that there is not one Grain of fix'd Salt in any Part of an Animal Body : So that this too may be asserted as an Axiom.

Fix'd Alkalies destroy all manner of Acids in the human Body where-ever they meet with them. Oil of Tartar will take off the violent Acidity of Oil of Vitriol ; and much more easily mortify the milder Acids which lodge in the human Body. In that Species of the Gout, which is caus'd by a predominating Acid, a few Drops of the Oil of Tartar *per deliquium* taken once a Week in a Glass of Wine, is an excellent Medicine ; but must never be used when the Body already abounds with Alkalies. And in all hot and inflammatory Constitutions and Diseases, all colliquative or malignant Fevers, the Small-Pox, the Measles, all Pestilential Cases, and where-ever the Body tends to a State of alkaline Corruption ; when the Blood is in too great Motion ; where the Solids and Fluids are too much dissolv'd and melted down by a long Continuance of Chronical Diseases ; where there are Signs of a predominating volatile Alkali ; where the Bile is too much diluted and attenuated ; and where the Lungs are ulcerated, &c. In all these Cases, the fix'd volatile Salts must be

be avoided as Poison, because it will here increase the Disease, and might easily prove mortal.

The *Elixir Proprietatis* prepar'd with distill'd Vinegar, was done by *Paracelsus*, who believ'd that this Medicine was peculiarly adapted to preserve the native Balsam of the human Body, and prolong its Duration beyond the Years of *Methusalem*: But nobody before *Helmont* pretended to say wherein its peculiar Virtue or Power of doing this consisted. *Helmont* tells us, That three Things are required in order to the Attainment of long Life, viz. Cleansing the Body of what is fœculent in it; preserving it from Putrefaction, and raising the Spirits thereof; all which he says are effected by the Ingredients of this Elixir; the Aloes purging off whatever might obstruct the vital Functions, the Myrrh defending the Body from Corruption, and the Saffron (especially that at *Hereford*) powerfully raising the Spirits, and enlivening the Heart. *Rufus Ephesius* was the first that employ'd a Mixture of the same Ingredients in the Form of Pills, as an Antidote against the Plague: Which he did with such Success, as increas'd *Paracelsus*'s Opinion of their Virtues. And, to say the Truth, these purging Pills of *Rufus* are excellent in all Distempers which proceed from a cold Cause, or require the Heat of the Body to be augmented in order to

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their Cure : But they have this Fault belonging to them ; that they render such as take them, subject to the Piles, on the Account of the Tenacity of the Aloes they contain.

Where a peccant *Alkali* predominates, I know no better Medicine than this *Elixir Aceto pp.* and may be more commodiously us'd instead of that made with Oil of Sulphur *per campanam*. In the Alkaline Species of the Scurvy, to which such as use the Sea are particularly subject, 'tis preferable to any Medicine I know ; as admirably preserving, or repairing the corrupted Gums, and other scorbutic Disorders of the Mouth, if apply'd hot thereto. It likewise has the Virtue of destroying Worms in the Body.

'Tis observ'd, that when the Diseases of young Children proceed from an acid Cause, which may be learn'd from the Scent of their Fæces and Eructations ; as also from a preternatural Distention of the Body, and Paleness of the Flesh ; the Diet of the Nurse should consist of Fish, Flesh, and the Liquor in which they are boil'd ; the Use of Bread, Wine, and other Things of an acid Nature, being forborn : But if the Infant labours under a burning Fever, appears red, hot, &c. the Nurse should be treated in the contrary manner, with Acids, and such Aliment as is tart and cooling. Hence we are given to see the Reason of some *Phænomena* both in acute and chronic Diseases,

eases, as particularly the Redness and Heat of the Body in the former, and its Paleness &c. in the latter ; these generally proceeding from an acid, and those from an alkaline Cause. And hence we have a necessary Caution in the Choice of a Nurse, *viz.* that her Milk be perfectly White ; a Tendency to Yellowness in it, being a sure and early Symptom of a Fever.

Urine is neither acid nor alkaline. But tho' neither alkaline nor acid Salts can be found in the human Body ; yet in ardent Fevers, &c. the Juices may, by the great Increase of the Circulation and the violent Heat, be turn'd of an alkaline Nature, or become so sharp and corrosive, that unless they are discharg'd thro' the Kidneys, they may presently destroy the tender Fibres of the *Cerebrum* and *Cerebellum*, and so prove mortal ; which verifies *Hippocrates's* Observation, That great Drinkers generally die apoplectic. The Urine contains the sharpest Salts in the whole Body, being, with the Oil, which brings them to a kind of Soap, of a very deterging Nature.

From what has been said we may see, how contrary to Truth that general Opinion is, which supposes fix'd Alkalies, acid Salts, or fermented Spirits produc'd in the human Body, to be the Cause of all Diseases.

And hence we may learn *à priori*, what *Hippocrates* was taught by hazardous Experience ;

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rience ; to order nothing but Acids, or Medicines tending to an acid Nature, as *Oxymel*, &c. in acute Fevers, inflammatory Cases, &c.

Sal Armoniac is likewise neither acid nor alkaline. That, or its Flowers are a better Medicine than *Sylvius's* febrifuge Salt ; nor do I know a more effectual Medicine to answer the same End, by promoting Sweat, and breaking the febrile *Coagulum* of the Blood : And about ten Grains thereof given in a Draught of hot Wine, or other convenient warm Liquor, an Hour or two before the Fit is expected, is an excellent Remedy for the Cure of Tertian or Quartan Agues. A single Dose will commonly put by the former ; and three or four will finish the Cure of the latter, provided the Patient is not of a cachectic Habit of Body.

There is a surprizing Difference, as to the Effect between the Action of different Degrees of Heat upon the same animal Liquor ; and no less than that of Fluidity and Firmness.

Water that is made a little hotter than the Blood of Persons in a Fever, will soon thicken the Serum, and other animal Fluids, and make them concrete. And it is certain, that a violent Degree of Heat is very pernicious to the human Body ; as occasioning grievous Obstructions, or Polypus's therein. And of this we have daily Instances in the
Blood

Blood of those who labour under any inflammatory or hot Distemper : So that their Opinion is the direct contrary to Truth ; who assert, as some Physicians do, that Heat in general resolves and attenuates the animal Juices ; whereas, any considerable Degree thereof will certainly thicken, and make them viscid. And thus, tho' it be generally suppos'd that hot Water dilutes and thins the animal Fluids, yet if drank more than Blood-warm, the Truth of the Assertion may be justly question'd.

And hence we may readily account for the Origin of abundance of Diseases. Thus, for Instance, it is no Wonder if the Bile, by stagnating, as it sometimes does, that is, by digesting in the warm human Body, receives such a Change as to produce the *Cholera Morbus*, with the *Nausea*, Vomiting, and other grievous Symptoms wherewith it is sometimes attended. The Salts of the animal Bodies, however, never become of an alkaline or pernicious Nature, but by Heat, Digestion, Stagnation, or Putrefaction : Which latter is the Consequence of Stagnation, and never happens without it ; but when once they turn volatile, or alkaline, the Life of the Patient is immediately endanger'd by a Gangrene, Mortification, Apoplexy, or the like. And whether the Plague, the Symptoms whereof succeed so fast, be

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not owing to some such Cause as this, is a proper Subject for the Inquiry of Physicians.

The Serum of the Blood participates neither of an acid or alkaline Nature. If it was really an Acid, as *Sylvius* pretended, and by mixing with the alkaline Blood, as he conceiv'd it did, to keep up its Circulation; the opposite Salts thereof must upon such Mixture, raise a strong Ebullition and Effervescence in the Body, and so produce either violent Tumours, or a Rupture of the finer Vessels, whereby Life itself would immediately be endanger'd. And for this Reason we may safely reject his Hypothesis; together with those of *Willis* and *Des Cartes*, who feigned such kind of Effervescences in the animal Body to account for the *Phænomena* therein.

Boerhaave made several Experiments upon different Persons, different Ages, and different Sexes; some of them labouring under Fevers or other Diseases, as it came from the Veins, but could never observe the least Marks of any Effervescence or Conflict. He says, The Serum in its natural and perfect State is a transparent, viscous, uniform, and almost insipid Fluid, nearly resembling the White of Eggs; bating for its being sometimes saline, on account of the Sea-Salt used by Mankind along with their Aliment,

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As to the *Volatile Salts*, as all the Kinds of *Sal Vol. Oleos.* they are most properly employ'd in such Distempers where any acid Humour is to be corrected; any thing viscid or tenacious to be attenuated; or any thing coagulated to be resolv'd; where Heat is to be increas'd; the Strength recruited, or sluggish Motions to be quicken'd. Which gives us to see what a noble Medicine they are in abundance of Chronical Diseases, proceeding from a viscid, cold, or acid Cause; as particularly in the Acid Scurvy and the Acid Gout. But on the contrary, in acute Cases, when an alkaline Corruption resides in the Body, and the Blood or Oils thereof are already broke too small, it is very unsafe to use them, as being here of a very poisonous and pernicious Nature. They must therefore be carefully avoided, in case of a *Phthisis*; where is a Disposition to bloody Urine, or the like; and in general, wherever the Salts of the Body are of an alkaline Nature, or tending to Putrefaction: When their Use is proper, they are taken to best Advantage, in a considerable Dose, along with a Glass of generous Wine. To prescribe them after the vulgar Manner, in the Quantity of a few Drops, is doing little to the Purpose; they must be given by a Dram at a time: So that a whole Ounce may, in Cases of Necessity, be taken in a Day, if we would expect to reap the Benefit thereof.

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And in this Manner I have prescrib'd them with good Success. They are to be taken upon an empty Stomach, drinking a Draught of some warm Liquor upon them, whilst the Patient remains in the Bed ; or using gentle Exercise after he rises, so as to cause a light Appearance of Sweat upon his Body, at least a Disposition thereto. Hence it is evident, that the Use of these Salts is indeed very extensive, tho' not so universal as *Sylvius* or some others have thought it, or as their extravagant Commendations would persuade one.

Spiritus Nitri Dulcis, is an admirable Medicine in all Diseases, whether internal or external, attended with Putrefaction. It is particularly excellent in Case of the Stone and Gravel, being taken, with any proper Vehicle, in the Quantity of twenty Drops, three or four times a Day ; and in this respect it was a gainful Medicine to the famous *Sylvius*. 'Tis likewise good in such Cholicks as proceed from a bilious, hot, or putrid Cause ; and one of the best Medicines yet known in Case of a Gangrene or Sphacelation. It may be safely given in Case of a Cancer, even tho' design'd for Extirpation ; for even then it will contribute to make a Separation of the corrupted from the sound Part whereto it is contiguous. Lastly, it has, when properly apply'd (and, believe me, a proper Application of a Medicine is the

the only *Nostrum* in Physick) very great Virtues, both in the Small-Pox and Plague.

Sulphur in its natural State is wholly volatile, but proves neither acid nor alkaline upon any chymical Experiment; tho' a large Quantity of acid Matter may readily be obtain'd therefrom. But this no more proves it an Acid, than a similar Treatment would prove, that Nitre and Sea-Salts are Acids, because by the like Means they may be converted into such.

The *Oil of Sulphur* is esteem'd the best Acid we have for Medicinal Uses, and preferable to Oil of Vitriol, on account of its Purity. *Helmont* particularly commends it as a great Preserver of Health, and tending to procure long Life; a single Drop thereof being taken, with some proper Vehicle, every Morning upon an empty Stomach. But have a Care of employing this, or even *Willis's* Tincture of Sulphur, in hot Distempers, dry Coughs, ulcerated Lungs, and Asthma's; as believing it, in these Cases, very prejudicial.

As to the *Balsam of Sulphur*, I cannot at all approve of it as an internal Medicine, because it is certainly of a very disagreeable Taste, and leaves such a nauseous Impression upon the Tongue as is hard to get off again. Besides, the Oil it is made of being very gross, it may be apt to cause Obstructions in the Lungs; and I have frequently found,

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found, that upon giving this kind of Balsam in phthifical Cafes, the Fever, and other Symptoms have been increas'd, and the Appetite deprav'd. But as an external Remedy, it is doubtless very serviceable in Wounds, Ulcers, &c. which seems to have given the Occasion of its being likewise apply'd as an Internal in similar Cafes.

The Medicinal Virtues of *Saccharum Saturni* or the Vitriol of Lead, are these; it is a very powerful Styptic, presently coagulating the Blood, and constringing the Mouths of the bleeding Vessels. It is good against Inflammations, being dissolv'd in Water, and us'd by Way of a Fomentation: And in many other respects it will answer the Intentions of the Physician or Surgeon, us'd as an External: but I cannot imagine it safe to give it, as some do, internally. Almost all the modern Physicians I know, scruple not to administer it in intermitting Fevers, and other Distempers; but with what Success they best can tell. With me it stands in the Catalogue of Poisons. And tho' it may cure the Fever, it is apt to leave a worse Disorder behind it. This is certain, if it meets with an Alkali in the Body, it will thereby be turn'd to a Calx or Ceruse, which all acknowledge to be poisonous; being only kept in a saline Form by means of the Acid of the Vinegar. And accordingly, I have observ'd several Persons to complain
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of a Weight at their Stomach, Loss of Appetite, Impotency, and several other Disorders from the internal Use thereof: And, indeed, it has at length thrown them into a lingering Consumption.

Æthiops Mineral, though taken in very large Quantities, will not salivate like other Preparations of *Mercury*, and, indeed, cannot be dissolv'd by any of the animal Fluids: Whence it can scarce possibly enter the Lacteals, but runs untouch'd thro' the Intestines: By which means, however, it may gently stimulate the Coats, sollicit the Discharge of their Contents, destroy the Worms it meets with there, and serve to cure such Disorders of Children as proceed from Causes seated in the *Primæ Viæ*; for which last Purpose it is found very effectual. In other respects it seems to be unactive in the Body; the Mercury lying dormant in the Sulphur, and requiring to be mix'd with purgative or other proper Ingredients to bring it into Action; by which means it may be render'd serviceable in cutaneous, phlegmatic, or venereal Diseases, the Cure whereof it would never otherwise effect; contrary to the Opinion of those who imagine the Virtues of *Mercury* to be exalted and raised, when brought into such a State of Inactivity, as renders it incapable of raising a Salivation, by being made too gross or insoluble to enter the Lacteal Vessels,
and

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and mix with the Blood. And so much for Chymical Medicines.

The learned Dr. *Cheyne*, in his Treatise of the Gout, speaks of this Medicine after this Manner: I cannot pass over, *says he*, *Æthiops Mineral* without pressing its more universal Use than, for ought I know, it has yet had in common Practice. It is one of the most certain and universal Alteratives, if dosed sufficiently, and long enough persisted in, of all the Dispensatory. It radically extirpates the Itch, the Piles, scorbutic and scrophulous Ulcers; all cutaneous Foulnesses, all Inflammations and Fluxions on the Eyes, all internal Ulcers, Rheumatisms, white Swellings, sharp Humours in the Stomach and Guts, and almost all Distempers arising from sily Juices. I say, it cures these, if Art can do it; for some of these (like hereditary Gouts) are so transubstantiated into the Solids, that nothing but a new Conformation of Parts can cure them. It may be given to almost half an Ounce in a Day, especially with interspers'd Mercurial Purges, without Trouble, or any sensible Operation, and continu'd for a Twelve-month, if one pleases. And in another Edition of that Treatise, he says, That *Æthiops Mineral*, three Drams taken twice a Day, made up with Syrup of Lemons, and a gentle Mercurial Purge once in ten Days, has cur'd a spreading, foul and scorbutic Ulcer. And this Method
never

never fails to cure Ophthalmia's, even scrophulous ones, and is a most certain Remedy in an Ulcer of the Bladder; as I have always found, if given in a sufficient Dose, and persisted in a sufficient Time.

'Tis observ'd, that in Apoplexies, Deliria's, Convulsions, Lethargies, Malignant Fevers, Small-Pox, violent Head-aches; in short, in all Distempers wherein there is Reason to apprehend an Inflammation or Obstruction in the Vessels of the Brain, Head, Neck, Arms, &c. Bleeding in the Foot, gives more Relief than any other.

A late *French* Author says *, There are only two Causes of the various Symptoms in Hysteric Fits: The one is an Oppression in the Vessels in the Brain. While these are overcharg'd, it often happens, that the Spirits are hinder'd from being separated. Sometimes in their irregular Escapes, they flow out with Fury and Rapidity, which produces that Variety of Symptoms, viz. Convulsive Motions; the Stiffness of the Muscles and Tendons; the Deliria, the Drowsiness; the Difficulty of Respiration; the Tension of the Belly; the Swoonings, and other Symptoms of this fantastic Disease. No Wonder then, says he, that Bleeding in the Foot should be convenient in this Case, since it is so proper to relieve and take off

* HELVETIUS.

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the Oppression of these Vessels, whence all the Disorder proceeds.

The other Cause of the Vapours is, an Irritation or Distention of some Parts of the *Abdomen*. Hence arise Convulsions, which restrain and disorder the Course of the Blood and Juices: Then is the *Lympha* stopp'd in its Vessels, and the Blood detain'd and obstructed in its own. Its Motion is no wise brisk enough to give any Apprehension of its forcing a Way into the Lymphatic Arteries, as he calls them: Bleeding in the Foot therefore cannot fail of Success on this Occasion; it sets the Blood at Liberty; it causes a more abundant Influx of it into the Parts, and restores Motion to the obstructed Fluids. Consequently, the Circulation becomes more free, and the elastic Power of the Solids being re-establish'd, dissipates their convulsive Tension.

At the Beginning he observes, that 'tis easy enough to cure an Obstruction in the Spleen, in the Womb, Liver, &c. but 'tis very difficult, tho' taken never so early, to subdue those that happen in the Glands purely lymphatic, such as those of the *Mesentery*, *Pancreas*, &c. The most obstinate and terrible of all Obstructions, are those in the Glands of the *Thorax*.

In Youth, when the Juices are more fluid, and less salt, Obstructions have commonly less pernicious Consequences. There are fewer

fewer Obstacles to contend with, than in a more advanc'd Age. We must, nevertheless, except those in the Glands of the Lungs. The Disorder which these produce, are more quick and violent in Youth, and their Course more difficult to be stopp'd.

If Persons are troubled with Pains in their Heads, which occasion a pale Water; that is, if they are infested with Hysterical Pains, it is good by Turns to take good strong Snuff, that will help their Noses to run much; or to apply Blisters behind their Ears: If they take strong Snuff, they ought to keep at Home till its Effects are over; for *Mercury* taken in at the Nostrils will give Cold: This ought to be either Turbith *Mineral* or White *Mercury precipitate*, mix'd up with Liquorice-Powder, and snuff'd up into the Nostrils: Thus they will flux and carry off a great many Humours. We in *England* are fonder of Blistering behind the Ears; but both have good Effects, and by the Discharge they make, they throw off that Redundance of Humours that caus'd their Head-ach. 'Tis observed, that Exercise is the only Thing to cure those Distempers which owe their Birth to a præternatural Structure of the Parts, and here the Fluids are not in the Fault: as appears from a young Nobleman that was troubled with frequent *Incubus*, and Difficulty of Breathing: My two very ingenious

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nious Friends, Dr. *Ratcliffe* and Dr. *Lane* were his Physicians; and they observ'd his *Sternum* to be too prominent, and the Ribs to sink in on each Side, so as to form a sufficient Arch for the Lungs to play in: Upon which they neither sent him to *Bath* nor *Bristol*, but directed his Lordship to swing a Lead in each Hand for an Hour or more every Day; by which Means he entirely mended the ill Formation of his Chest. An Anonymous's Directions for Women with Child, and Children, are so good, that I cannot forbear inserting them at large, being, I think, very rational, and fit to be universally known for the Good they may do the Publick. Our Children in *England*, *says he*, are mostly carry'd off by Gripes, and Convulsions; and to provide against these Maladies, would be saving the Lives of two Thirds of those who die. I know not how it happens, that our Women indulge themselves in all cool and windy Diet when they are with Child; but under the affected Notion of longing for all they like, they devour vast Quantities of Fruits. Melons, Cucumbers, Peaches, Nectarines, Plums, Apricots, Cherries, Gooseberries, Currans, Filberts, and the rest, are thrown gradually down. Examine our Fruit-Gardens, and then see what Quantities are rear'd, and devour'd. This indiscreet Liberty sometimes they suffer for themselves: But if it
agrees

agrees well with them, it seldom fails of making strong Impressions on the poor Infants in their Womb, whose Fibres are tender, and susceptible of every Mistake their Mothers commit. We often find them blame Frights and Troubles for their Childrens Ailments, which ought more justly to be laid upon other Causes. This we are sure of, that this Diet abounds with all that is requisite to create Wind and raise Convulsions, because they have all a Sourness or Viscosity, or both of them. Fruits make Wines, and will ferment readily; and all that is fermented is windy, more or less. Such Aliment in Children can't fail of griping: Their Blood is made up of the Quintessence of this Diet: Their Secretions smell sour, and their Stools are as green as Grass. Their nervous Juices must be of the same Nature; and 'tis not possible to avoid either the one or the other, or both; for Gripes commonly end in Convulsions. I would begin at the Women, and advise them to be cautious of their Diet, if they desire a sound and long-liv'd Progeny: But if that can't be granted, then a second Chance must be run. The Children must be kindly treated from their Birth; you must carefully void the Meconium of their Guts, by giving them Oil of Sweet Almonds and Syrup of Roses join'd to a little Oil of Nutmegs gradually, till they have

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thrown

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thrown downwards that black, pitchy Stuff, that has lain in their Bowels for so many Months. As soon as you perceive that all this is pass'd off by Stool, which you will know by the Colour being chang'd from a black or gritty Matter, to a yellow or brown; then in their Diet or Spoon-meat, if you bring them up by the Hand, mix a little Drop of Spirit of Hart's-horn in their whole Meal, or of good *Sal Vol. Olio.* which is better, twice or thrice a Day, and continue to do this daily for some time, and you will, very probably, prevent both Gripes and Convulsions: Or, if this should be look'd upon to be too much Trouble for the Nurse, let the Mothers give a strict Eye to their Childrens Stools; and if they perceive in them the least Tincture of Green, then let them be diligent in giving these Drops, till they turn of a yellow Colour: And this you'll find a Method of great Use for the Disorders mention'd; and as Children are fed too high, it is probable their little Stomachs may be cramm'd too much with Phlegm of a sour Nature; and a little Dose of suitable Physick, such as the Syrup of Roses just mention'd, with the Oil of Sweet Almonds and Nutmegs, once in a Month, will be useful. I have often known a Method made use of by Nurses, which is of a dangerous Nature. When they perceive their Children disturb their Rests by crying,

crying, they give them Doses of *Meconium*, or Syrup of White Poppies, in order to set them to sleep, and to keep them quiet. This is a very pernicious and roguish Custom, and Parents can never be too cautious about it; if they find their Childrens Bellies swell'd; if they are costive and drowsy; if they are thirsty, and lose their Appetites, there ought to be Inquiry made how all this comes about; and to bring Nurses to a Confession, you must press, that your Children may now and then take a Dose of this Syrup, or of Venice-Treacle: And when they find that you fall in with their Notions heartily, they are Fools enough to acknowledge, that they have always practis'd this Secret, or it would not have been possible to have kept the Child easy: Whereas an Admonition against it would only have serv'd to make them conceal their wicked Arts. It is high time to keep an Eye upon such a Nurse, if you set any Value upon the Child's Health or Life. Children suffer great Detriment from this soothing Secret, because it agrees so ill with them, that one Dose works twice as long upon them as upon advanc'd People. A Child with one Dose, for Example, will sleep for twelve Hours; whereas a Man sleeps only for six. If then a Nurse plies the Infant with this Syrup, 'tis odds but she destroys it before the Parent discovers how all this

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happens.

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happens. In Gripes and Convulsions then avoid Milk-Meats, and Victuals too much sweeten'd : All these Things turn sour upon their Stomachs, and ever cause these Symptoms : Broths are the best Diet in such a Case ; but if Children are peevish, and are very thirsty, then Milk boil'd thin, and such cooling Diet is best : I say, Milk ought to be boil'd thin, and their Pap also. It is a horrid Mistake to boil their Victuals so thick as to be a perfect Glue ; it sticks, indeed, to their Ribs, as they say, and to every Place, and their little Hearts have not Force enough to dissolve it. This is the last Scene of Victuals in the Blood. When all the fluid Parts are carry'd off by Urine and the Pores, the Juices become jelly'd, and unfit for Circulation ; and the Remedy, in such a Case, is to supply Liquor to dilute this Jelly, that it may not stick too much any where ; for Nurses then to look upon this Thickness of Childrens Victuals, as a necessary Condition to nourish them, is a vulgar Error, that ought carefully to be exploded, and put out of the Nurses Heads. It is from hence that they are so far from gaining the End they aim at, that they starve the Child, and bring it into an *Atrophy* and Wasting. However, this is a Custom they will readily comply with, according to the Mothers Desires, because it saves them both Labour and Fire. At present, Mothers
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are pleas'd if they see a Poringer of gluish Victuals, and enough of it in a Pipkin : This Caution, I hope, will prevent it for the future.

This candid and ingenious Author justly condemns the common Practice of our good Ladies, who observing any of their Family to be Feverish, command them to get into a warm Bed, give them a Dose of what they call the *Red Powder*, which is made up of very warm Ingredients, and hurry, by this extraordinary Diligence, their Menials from a common Cold, into an actual Fever : Whereas, if they had made them keep warm, or at least confin'd them to their Room for a Day or two ; caus'd them to refrain from Flesh-Meat, oblig'd them to drink Posset-Drink or Sage-Tea, and kept them to a meagre Diet of Water or Chicken-Broth, the feverish Cold, or even Fever beginning, would have been nipp'd in the Bud.

He says *Opiates* are highly of use in Hiccoughs, to which they are almost a present Relief ; because they compose the irregular Hurry of the Animal Spirits, and obtund the too great Sensibility of the Parts.

And to confirm this, I remember, thirty Years ago, when I liv'd in *London*, but being accidentally at the City of *Hereford*, I was earnestly desir'd by Mr. *Fryzer* an Apothecary there, my old Friend, who is now

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alive, tho' very old, to visit a young Man, the only Son of an Apothecary in *Ledbury* in *Herefordshire*, whose Name I have forgot ; he was about twenty Years of Age, and I was promis'd a hundred Pounds if I could recover him : I was, with great Difficulty, persuaded to visit him, because he was the Patient of the learned Dr. *Brewster*, then living in *Hereford* : And I had likewise seen, that the Method the Doctor had taken was very rational, and good : But however, I went to the Doctor, with whom I had a great Friendship. The Patient's Case was, That by drinking great Quantities of small Liquors, when he was very hot, by over-much Walking at a Procession, he fell into a most violent Hiccough ; and had been in that convulsive manner at least four or five Days : The Doctor had given him great Quantities of *Liq. Laudanum*. All that I had to propose to the Doctor, was, That in some desperate Cases I had seen in *London*, that there had been by eminent Physicians great Service done by *Opium* itself, when *Liq. Laud.* would do nothing ; and whether this Preparation of *Opium* is always good, may be a Question. The Doctor declaring, that he could do nothing more, readily consented to give the Patient six Grains of *Theban Opium* dissolv'd in Wormwood-Water ; which immediately, like a Charm,

put

put a Stop to that convulsive Motion, and the Patient recover'd.

'Tis observ'd that in Hypochondriac Melancholy, we must always suit the Patient's Palate, and leave the Choice of convenient Diet to themselves, and great Care must be taken to observe what agrees with them; we must necessarily avoid what they have an Aversion to, or what disagrees with them: Suppose there be no natural Antipathy against any Diet, (this is a good Observation) and yet it disagrees, it gives a fair Hint to a Physician of the Cause of a Disease: For Example, if Puddings or Eggs disagree with their Stomachs, and they had no Aversion to this Diet when they enjoy'd Health, it is a Sign that a viscid Diet is prejudicial to their Disease; and that such Diet as is known to enjoy contrary Properties, will be convenient either in Diet or Drugs. If the Gentlemen of the Profession would care to speak out, they would acknowledge, that they sometimes have no other Method to judge of the Cause of a Distemper; and a very good one it is, if it be rightly apply'd.

The same good anonymous Author observes, that Stools ought generally in this Case to be promoted, for few Melancholics are loose, unless by some great Accident; and they are most gently promoted by Clysters, which may be made up of Milk with

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a little crude Alum, and strain out the Whey for a Clyster: And Experience testifies, that this easy Method does a more effectual Service than any Physick whatever.

'Tis certain, that a Physician should be very cautious and careful; but what the People often call a safe Doctor, is good for nothing: As for Example, in acute Distempers, where Loss of Time is Loss of Life, there may be as great a Fault in depending upon those they call innocent Medicines, as in the Use of bad ones: The only Difference is, the one may kill, whereas the other only lets 'em die. And as to Drugs, there are some frequently us'd that are of no Value at all: The so much admir'd *Bezoar-Stone* is one. The Writers of the *Materia Medica* ascribe great Virtues to this Drug, and have wrote large Encomiums of it. But if Physicians would consider seriously the true Worth of it, they would find, that its Virtue proceeds more from its being brought from a foreign Country, and a common Vogue and Esteem it has got in the World, than from any intrinsic Virtue it has in the Cure of Diseases. The learned Dr. *Slare* has given it a very fair and impartial Trial and Condemnation, by the Laws of Chymistry, Reason and Experiment: And certainly the Effects Medicines have on human Bodies are soonest and best known by separating their constituent
Parts

Parts by Chymical Operations, which has a greater Analogy to the Digestion of the Stomach, than all the Mechanical Powers the Mathematicians of late have introduc'd, to explain all the Operations of Nature. Oh ! how useful, *says Dr. Cook, (formely of Bristol)* might our Profession be render'd to the Poor, as well as the Rich, if all the chargeable Part of our *Materia Medica* was, after *Dr. Slare's* Manner, thus examin'd fairly ; and whatever appear'd insipid, inodorous, unactive, and indissolvable in mild *Menstruums*, and very gentle Heats, should be judg'd unworthy to be depended on for the Cure of Diseases ! The Reformation of the Errors and Cheats of the Materialists would be a very great Advantage to Mankind, who are too often in as much Danger from the true *Terra damnata* of Medicine, as from those Diseases which Quiet and Abstinence do frequently cure.

The famous *Diemerbroek, de Peste*, says, That this so applauded Stone, did no good to those that us'd it ; scarcely mov'd a little Sweat, &c. And the more famous *Crato*, in his Epistles, gives it no greater Character : In short, the most visible Operation it has, is seen when the Bill is paid to the Apothecary.

And as to *Pearl*, another noted Cordial, *Plater*, after the Experience of many Years Practice, rejects the pretended Virtues
of

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of it : Or of *Metals* which have no Taste or Smell, to give the least Pretence to rank them with the Vegetable Alexipharmics. 'Tis now only given in the Heart-burning, or windy sour Humour offending the upper Orifice of the Stomach, and cheaper Alkalies will do better. 'Tis a Disease in the Shell-Fish, as *Bezoar* is in the *Quadruped* ; both fitter for a Lady's Closet, or Neck, than for a Cordial, unless for a profuse and wanton *Cleopatra*.

The *precious Stones*, as Hyacinth, Ruby, &c. are of no Value ; For what Virtue can be expected from such hard impenetrable Bodies, that are not capable of a Diffolution, or of altering, or acting upon the Fluids ? And it is certain, that many cheap Medicines have greater and more observable Effects ; for 'tis ridiculous to give a hard gritty Powder, which may, for many Reasons, corrode and offend the Stomach and Bowels in their Passage.

All the precious Gems therefore should be sent back to the Jewellers, and Leaf-Gold to the Gilders.

The All-wise and Merciful Creator and Preserver of the Universe, has supply'd poor unworthy Mortals with the most efficacious Medicines to be had in most Countries upon easy Terms. Nay, most endemic Distempers have very proper Remedies to be gotten cheap in the same Region.

There.

There is no greater or better Vegetable, Cordial or Alexipharmic in *England*, than Saffron, especially that at *Hereford City*, and may be, and is rais'd in the County, the Soil being peculiarly good for it.

Sarsaparilla is likewise said by the late Writers to be *Nullius saporis, vel odoris*; and therefore I think of little Value: And tho' it has been beneficial in the *West-Indies*, 'tis thought it has lost its Qualities in the Passage into the colder Climates; and being a soft and thin Root, it may evaporate and exhale its most active Parts.

Mummy, and the dry'd Hearts, Livers and Spleens of Animals burn'd to a Powder, are often commended even as Specifics in some Cases; but they are loathsome, and useless Medicines. Even the Powder of Vipers, and their Trochises, and Preparations of human Skull, are insignificant. I could give good Reasons for their Uselessness, if I had Time to do it.

Diseases, as one well observes, are certainly the Off-spring of Diet; in which if it offend eminently, and for any Time, it is impossible but the Blood must be of the same Nature with what we feed upon; that is, if what they eat and drink consists of volatile oily Salts, probably, and most probably, the Blood will be of the same Nature; and so, on the other hand, if what they live upon be viscid, the Blood will be of that Nature:

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Nature : For gross, glutinous, viscous Vi-
 ctuals, such as Beef, Pork, tough Meat, Fish
 of a hard Consistence, such as Eels, and the
 like ; all salted and dry'd Meats, more espe-
 cially unripe Fruits, as Plums, Melons,
 Cucumbers, Medlars, &c. Lettice, Cabbage,
 Beans, Pease, &c. new Cheese, and new
 Bread ; the Extremities of Animals, which
 are glutinous : Such Food, I say, are hard
 of Digestion, because they are hard in their
 Fibres, and because their Juices are viscous,
 and therefore will make the Chyle viscid :
 And it is a Maxim in Physick, That Faults
 in the first Concoction are rarely mended in
 the second, or third ; it follows then, that
 all the Juices being made of the Chyle, they
 will be such as it is. Eating more than can
 be digested, altho' the Victuals be of good
 Nutriment, does the same thing, as eating
 or drinking such Things as are crude ; for
 altho' they be of good Juice, and easy of
 Digestion, yet if they ben't chew'd enough,
 and you play the Glutton, you will find
 Indigestion succeed ; for the Beginning of
 Concoction is plac'd in the Mouth, where
 the Victuals should be chew'd well, and
 mixed with the Spittle, and diluted with a
 proper Quantity of good Liquor ; by all
 which their Fibres are render'd soft, and
 capable of being squeez'd out into Chyle,
 and so to be fitted for entering the Blood ;
 yet Caution must be taken, that we don't
 dilute

dilute their Victuals too much, neither must their Liquors be compos'd of too watery, or too viscous, or rapid and spiritless Parts; nor yet must strong Liquors be swill'd too plentifully in, because they increase Perspiration too much, and exhale the Blood so much as to render it gross.

'Tis a reasonable and undeniable Maxim, That for the Preservation of Health, and prolonging a Man's Life, it is necessary that he eat and drink no more than is sufficient to support his natural Constitution; and on the contrary, whatsoever he eats and drinks beyond, that is superfluous, and tends to the feeding of the corrupt and vicious Humours. Reason tells us, that a good Regimen is necessary for prolonging the Days, and that it consists in two Things: First, in taking Care of the Quality; and secondly, of the Quantity, so as to eat and drink nothing that offends the Stomach, nor any more than we can easily digest.

'Tis an excellent Observation of the witty and learned Dr. *South*; How vastly disproportionate, *says he*, are the Pleasures of the eating and of the thinking Man? Indeed, as different as the Silence of an *Archimedes* in the Study of a Problem, and the Stilness of a Sow at her Wash. Nothing is comparable to the Pleasure of an active, and a prevailing Thought. Every Morsel to a satisfy'd Hunger, is only a new Labour to
a tir'd

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a tir'd Digestion. Every Draught to him that hath quench'd his Thirst, is but a further quenching of Nature, a Provision for Rheum and Diseases, a Drowning of the Quickness and Activity of the Spirits.

And as no Man would think it a desirable Thing, to preserve the Itch upon himself, only for the Pleasure of scratching, that attends that loathsome Distemper: so neither can any Man, that would be faithful to his Reason, yield his Ear to be bor'd thro' by his domineering Appetites, and to choose to serve them for ever, only for those poor, thin Gratifications of Sensuality that they are able to reward him with.

'Tis no irrational Notion that has obtain'd, that a Dram of Brandy, or of some warm Cordial does allay Thirst well; for in great and violent Heats the Spirits evaporate with the Blood; that is, the spirituous Part of the Blood exhales and leaves the whole Mass a languid Substance; and a Dram repairs the Loss for a while, and by returning the Spring of the Fibres, the Secretions which grew languid by this Waste, are repromoted, and, among the rest, that of the parotid Glands returns, and Thirst abates.

Such violent and excessive Heats cause Inflammations in the Blood; for as calling off a necessary Part of Serum by Fire turns the Blood into a Jelly, so by a greater Heat
the

the Serum becomes tough and fibrous ; by the latter, polypous Concretions grow in the Vessels, which quite abolish the Circulation. This is seen daily in the great Towns in *England*, where Drinkers of Spirits drop down dead ; and upon Dissection, polypous Concretions are found in the large Arteries.

One general Remark in Physick is this, to wit, No internal Inflammation whatever ought to turn into an Impostume : And if this be a standing Rule among the Sages of the Faculty, I pray weigh seriously what Care ought to be taken to avoid this Inconvenience. No sooner then is one seiz'd with any internal Pain, whether in the Stomach or Belly, that is violent, that is accompany'd with great Heat and Feverishness, Thirst and a Soreness, upon touching, but Recourse must immediately be had to the Lancet ; take off, without Delay, ten, twelve or fourteen Ounces of Blood from the Veins, and repeat this Method at a convenient Distance, as often as the Pain and Fever do require, and give inwardly cooling Liquors, especially Emulsions, at Pleasure, made of Almonds : The following Mixture now and then is proper. *R. Aq. Lact. Alex. ℥iij. Pæon. c. ℥ij. Sal Prunel. ʒj. Syr. Balsam. ʒiij. m.*

'Tis an Observation of the Great and Learned Doctor *Cheyne*, That there is not a
more

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more mischievous, nor greater Mistake than the common one, that thin Blood is poor Blood ; which the vulgar and Herd of Mankind are as terribly affrighted for as outward Poverty and Want. For, on the contrary, the thinnest and most fluid Blood is the richest, (if rich and good mean the same thing.) For in Hydropical, Anasarous, Cachectic and Scorbutic Persons, both the serous and globular Part of the Blood is thick, gluey and acrimonious ; so that it can neither get thro' the small Vessels, nor can it be long contain'd in them, but corrodes and frets them, and so falls (at least the thinnest Part of it) into the Cavities, and begets a Dropsy ; or stops in, and obstructs these small Vessels, and so becomes an Anasarca or Scurvy. In all which Cases, the serous Part is overloaded with urinous Salts, and becomes a perfect *Lixivium* ; so that by its Grossness it cannot run into Globules, to facilitate the Circulation of the Juices thro' the Capillaries, (for these small elastic Globules, by turning oval, or oblong, wonderfully facilitate the Circulation of the Juices thro' the small Passages) and the red or globular Part becomes a mere Cake of Glue ; and thus the Quantity of Serum is increased, and the Quantity of the globular Part gradually lessen'd.

If these Observations prove serviceable to young Physicians, for they are design'd
for

for no others, I shall have my End, and be encouraged to publish others more practical.

'Tis rightly observ'd, That the binding the *Thorax* of Infants too strait, renders them very subject to Consumptions; which is too much practis'd in *England*: For the Ribs, especially of Infants, being very pliable and soft, they may be brought into what Figure you please; but when they are contracted too far beyond their natural Position, it causes an Angustation of the Breast, and produces Defluctions, spitting of Blood, Consumptions and Inflammations.

'Tis observ'd, the Spleen is in human Bodies only fasten'd to the *Diaphragm*, and its Concussions reciprocally assist the Spleen; whence 'tis concluded, that Mirth at Meals must be very useful towards a good Digestion, by forwarding its Help to the Stomach.

'Tis said, That a *German* at *Montpelier* has discover'd the Vessels which convey the Chyle to the Breasts of Nursing Women, and shew'd, that they do issue out of the *Ductus* of *Pecquet*.

'Tis well observ'd by a late Author, That Philosophy, Anatomy, Botany, and Chymistry are necessary Studies for all young Beginners: But they only make up the easy, the pleasant, the speculative, the preparatory

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paratory Part of Physick. The tedious, the difficult, but the only useful Part in regard of others, I mean the practical, which is not attempted by many, is only attain'd by an almost everlasting Attendance on the Sick, unwearied Patience, and judicious, as well as diligent, Observation.

This is the Art itself, to which all the Studies before-nam'd are but the *Proœmium*. This the *Schola Coa*, and the greatest of its Members, *Hippocrates*, with some few of his Followers, profess'd ; but being too severe, unpleasing, and tiresome, it has been little regarded for many Ages ; and 'tis chiefly to the Ancients that we are beholden for what we know of it. As the World grows wiser, Physicians of later Times have found out more compendious Ways to Renown and Riches ; by applying themselves particularly to Anatomy, Chymistry, &c. and by writing of, or performing something with Accuracy in any one only of the shallow auxiliary Arts, that all together compose the Theory of Physick, they know how to insinuate themselves into the Favour of the Public ; and from their giving Proofs of their understanding well one inconsiderable Branch of their Art, are stupidly believ'd to be equally skill'd in the Whole. The great Anatomist that artfully dissects the dead Body of a Malefactor, shall therefore be trusted with the live one of the Judge, till he

he has fitted that too for his Purpose. The witty Philosopher, who can so exactly tell you which way the World was made, that one would think he must have had a Hand in it; in his Talk cures all Diseases by Hypothesis, and frightens away the Gout with a fine Simile: but when he comes to practise oftener, reasons a trifling Distemper into a Consumption. But, says the Botanist, *Non verbis, sed herbis*: He that by the Colour and Shape of Seeds, can foretel what Leaves and Flowers the Plants will produce, is no small Physician, and must have a great Insight into the Seeds of Diseases: Being so well acquainted with the Virtues of all the Simples, he knows, without doubt, what will cure you, if God has created it. The boasted Chymist values himself above the rest, since by the Force of Fire, (he'll tell you) and by his *Menstruum*, he exalts the Minerals to a higher Pitch of Perfection than their Soil or Climate could ever have rais'd them; and despising the Efficacy of Simples, puts Nature herself upon the Rack to make her confess what Medicines she has within her.

Most of the diagnostic Signs and predictions from every Symptom, which *Hippocrates*, *Cælius*, *Aurelianus*, and a few more *Greeks* have left us, as they are the Result of solid Observation, will continue to be faithful Guides to all that can make Use

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of them, as long as human Bodies and Nature itself remain.

He observes, that *Galen* was a Man of very good Sense, and no less Pride, having entertain'd the Ambition of raising himself above any of his Contemporaries; foresaw, that to exceed the most skilful of them in real Knowledge would be a very difficult Task, if not impossible, and at best a tedious Work of endless Labour: He was well acquainted with the State of Physick, and the Palate of his garrulous Age, and found, that nothing would sooner or easier establish his Reputation, than his Wit: Accordingly, he left the Observations to them that liked them, and fell a writing fine Language in a florid Style. He told the World, that Physick was a rational Art; that they were Beetle-headed Fellows that could not make it intelligible; and presently gives them Reasons, such as they were, for every individual thing he could think on. This took wonderfully with the People of those Days. Seeing his Reasons were so well accepted, he writ on, and stuck at nothing; where his own Wit would not help him out, he borrow'd of others: His *Materia Medica* he took from *Dioscorides*, without so much as naming his Name. Where he had his Anatomy I don't know; but *Vesalius*, a great Anatomist, proves from his

his Blunders, in no less than one hundred and six Places, that he never saw the Inside of a human Body ; and yet he assign'd every Part its Office with as little Hesitation as if he had made them, or been set over them as *Major domo*. This, *says he*, was the Beginning of Peoples reasoning about Physick, from Speculation and Probability ; and that the Cause of all the Hypotheses we have had since ; the best of which will be always defective and full of Error.

A witty Man, *adds he*, that can express himself in good Language, and is tolerably vers'd in the Theory of Physick, may, by the Help of a well-contriv'd Hypothesis, find out probable Causes, floridly account for every Symptom, exactly tell you the Indications that are drawn from them, and build upon them such a rational Method of Cure, as that even Men of Sense shall applaud him, and think him an Oracle in Physick, tho' all this while he knows nothing of the Art itself.

To know a real Physician from a Block-head, let him be Grave or Airy, Young or Old, he gives this infallible Touch-stone to try him by. If in any acute Distemper whatsoever, his Answers be direct and plain, his Predictions clear, and what he says proves true, you may trust him with all the rest ; if otherwise, not at all : and the more ample and circumstantial his Predictions

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are, depend upon it, the greater is his Skill. This is an Aphorism that will hold good in all Countries and Ages.

As Vegetation is perform'd by Earth, Water, and Heat; so Concoction, or Digestion of the Meat in the Stomach, is perform'd by Mastication, the Saliva, the Juices that are secreted by the Glands in the Stomach, together with the Motion and Heat of it. As to *Mastication*, as was said before, tho' the Victuals be of good Nutri-
ment, and easy of Digestion, yet if they be not chew'd enough, and you play the Glutton, you'll find Indigestion succeed; for the Beginning of Concoction is plac'd in the Mouth, where the Victuals should be chew'd well, and mix'd with the Saliva or Spittle, &c. And the Effect of this Juice is visible from its changing any Food that sticks between the Teeth into a white, chylous Colour: As to the Juices in the Stomach, some think they are of an acid Nature; and the famous Mr. *Boyle* seems to have suspected, That as the Cause of Digestion, when he made his Observation, that Meats would look extreamly white, by being kept in acid Liquors. But *Leeuwenhoeck* affirms, That Concoction is not perform'd by an acid Liquor dissolving our Meat. And Dr. *Musgrave*, from the Experiment he made, concludes them to be a volatile Alkali: He mix'd the mucous Substance taken
out

out of the Stomach of a Jack, near the *Pilorus*, with a Solution of Sublimate, and it became much whiter than it was before. Another Quantity, mix'd with Syrup of Violets, turn'd green. The same Person has observ'd like Effects, by mixing a Liquor found in the Stomach of a Hedge-hog with a Solution of Sublimate, and Syrup of Violets. The Motion of the Stomach and Guts bruise and break the Meat to Pieces: This Motion is thought to be caused by the *Diaphragm* pressing upon the Parts of the lower Belly as often as we take our Breath. And to account for Concoction in Fishes, 'tis thought the moving of the Gills to be equivalent to Lungs in composing and dilating the Stomach. And, lastly, as to Heat, it is certainly necessary, notwithstanding the Observation that is made, that the *Menstruum* in Fishes is more powerful than in other Creatures, considering how often not only Heads, Legs, Arms, and whole Quarters of Men, but likewise Things of greater Solidity have been found in the Bellies of Sharks and other large Fishes, sometimes entire as they were swallow'd, and sometimes half or more consumed; and yet that it is demonstrable, that in Fishes there is Heat assisting in this Operation.

But, as Dr. *Mandeville* observes, I have often admir'd how any *Menstruum* should be of that Force as to dissolve human

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Bones, and things of harder Substance, and yet not be corrosive, or affect even the Tongue with the least Acrimony ; nay, most Fishes, whether raw or boil'd, have nothing about them (the Gall excepted) but what is either sweet and luscious, or viscous and insipid, or at the most of an oily Taste. But, adds he, If the Power of their Ferment were yet stranger than it is, this could only satisfy us, that there are Ferments that are able to digest the Aliments without the Help of Heat ; but it is far from proving that we have such a one, when Experience shews us the contrary. First, we find that all cold Things taken in Quantity offend the Stomach, and damp, if not totally destroy the Ferment. Secondly, it is evident, that Aromatics, and such other Drugs as are call'd hot, and abound with spirituous and fiery Particles, comfort the Stomach, assuage its Pains, and cure Indigestions occasion'd by Cold ; nay, because we cannot procure Heat enough to it otherwise, we make use of Fire itself, not only by a previous dressing of our Food, but likewise by eating it whilst it is hot. And an Instance to prove this, may be taken from the common Diet of Children, by which you'll find, that boil'd warm Milk generally agrees well with, and nourishes them ; when the same Milk raw, and eat cold, will gripe and disorder them. Every body knows,
that

that a Glas or two of good Wine, to those who are no profess'd Drinkers, whets the Appetite to a Proverb; and that likewise the Spirit of it does the same to ancient People, in whom the natural Heat is diminished.

Besides what I have already mention'd, I am of the last quoted Doctor's Opinion, That the Animal Spirits are likewise concern'd to compleat a good Digestion. For from Anatomy we know, that abundance of Nerves end and empty themselves in the Stomach, whose inner Coat is wholly nervous, and not allow'd to have any spontaneous Motion of its own. And we are taught by daily Experience, that whatever Food is craved and longed for after an extraordinary manner, the same, tho' absurd, and to all Appearance prejudicial, is generally well digested, even in those that otherwise have but a weak Constitution: I remember a Gentlewoman in *Hereford* City, of a very weak one indeed, and yet having a great Inclination to it, she could eat roasted Cheese, which is very hard of Digestion to most weak Stomachs, without any the least Inconvenience. The Instances that might be produc'd in Big-belly'd Women, sick People, and others, to confirm this Assertion, are innumerable. I shall only put you in mind of two very remarkable ones: The first we have from *Tulpius*, a noted, honest, and

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and pains-taking Physician in *Holland*; who has an Observation of a Woman with Child, that being prodigiously in Love with pickled Herrings, fed of them daily in great Quantities; and before her Longing was satisfy'd, which, in all Probability, must have lasted some Weeks, had eaten fourteen hundred without receiving the least Injury by them. The other is to be found in *Platerus*, who relates, That a Girl of about seventeen, had so depraved and perverse an Appetite, as not only to fancy, but likewise to eat an Onion, that in the Time of a raging Plague, after having been apply'd to a pestilential Boil, and being blacken'd and putrefy'd by the poisonous Exhalations, was thrown down by the Fire-side. The Girl, *says he*, receiv'd no Hurt, and remain'd free from that Disease otherwise so contagious.

Next to Experience, and what is the Result of it, he makes use of the Testimony of *Hippocrates*, who in one of his Aphorisms tells us, that Aliments, which our Appetite stands inclin'd to, are far better digested than those we don't fancy.

From these Observations, Anatomical and Practical, he concludes, and I think justly, That if the Animal Spirits, which the Stomach is continually furnish'd with thro' the innumerable little Nerves, that discharge themselves there, do not wholly
compose

compose (which yet nobody can disprove) the stomachic Ferment, *Menstruum*, or what you please to call it, by Virtue of which our Aliments are digested, they at least make a considerable, and the most essential Part of it : And that some of the Spirits, that help to constitute the Ferment, are of a greater Subtilty, and more refin'd than the rest that serve only for muscular Motion, and other Actions of Force.

From what has been said, 'tis no difficult Matter to know how to rectify a bad Digestion, the Cause of a vast Number of Distempers.

That ingenious Author observes, That Nature, in the Formation of Animals, has no where display'd a more impenetrable Skill, than in the peculiar Texture of the different Vessels, Membranes and Fibres that occur in the Fabric of the same Creatures. There are Properties that belong to, and are, as it were, woven in the Substance of them, which human Sagacity could never have discover'd *à priori* ; and that in several, each of them has been fitted to that particular Purpose only which it is to serve, we know no otherwise than by Experience *à posteriori*. People in Health are as easy, at least after their Meals, as they are before them ; yet the hundredth Part of what is not felt at all in the Stomach, would cause exquisite Tortures in the Bladder.

I have

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I have many times, *says he*, brought up a four Stuff so corrosive, that it only passing thro', it actually flead my Throat and Mouth, and yet I was not sensible of its Sharpness whilst it remain'd in my Stomach. But it was requisite that the Organs of Taste should be very nicely wrought.

No Part of us, *adds he*, is more sensible than the Stomach. In Gouts and Rheumatisms there are often Pains felt in that *Viscus*, not less excruciating than those of the Stone; and what is very agreeable to the Palate, often proves as unpleasant to the Stomach. All that can be said of this, is, that the Inside of the Stomach is made for one Purpose, and the Inside of the Mouth for another. Nothing is less offensive to the latter than the *Saliva*; the Taste of it is imperceptible to the nicest Palates; yet this *Menstruum* is so sharp and penetrating, or at least it has such a Quality, that it will separate the Body, and break the Texture of Quicksilver; which by the Help of it, and nothing else but a Pestle and Mortar, may be reduced to an impalpable Powder.

'Tis certain, the Observations that lead us to the Knowledge of a Disease, and what Experience has taught us, concerning the *Fuvantia* and *Lædentia*, what Things will facilitate and promote, or obstruct and retard the Cure of it, are the Corner-stones on which Physicians ought to build their Practice:

Practice: They are known Parts, in which there are certain Roads to travel, whilst all the rest that is between them, is a *Terra incognita*, which every body may conceive of as he pleases. 'Tis observ'd, and I think own'd by every Physician, that the alkalious Salts, such as Crabs-Claws, Tips, the Shells of Fish, the two Corals, Shells of Eggs, &c. do imbibe the acid Humour in the Stomach, ferment with it, and make a very slight Emotion in the Blood, and consequently make an easy Sweat, if the Patient is in his Bed, warm and well cover'd, and happens to be bid to think of sweating at that time: But as all Medicines do, or should make an Alteration more or less in the Humours, and are therefore pernicious, if they go on altering, till they have oppress'd or destroy'd the natural and useful Quality; it is certain, that these Powders us'd too often, imbibe the Acid till they have consum'd it, vitiate or deaden the Appetite, and prevent the Digestion. 'Tis well known, that from the Stoppage of insensible Perspiration all our Colds proceed: The learned Dr. *Cole* therefore, who was every Winter troubled with one when he went first to practise in *London*; but reading that excellent instructive Author, *Sanctorius de Medicina Statica*, (worth all the Books in Physick that are wrote in the mathematical Way) found, that we perspire more in half an Hour in Bed

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Bed after waking in the Morning, than in many Hours at any other time, provided we keep our Arms in the Bed, lie quiet, without sweating or sleeping again; and by this means he prevented those Colds he was before so subject to.

A *Phthisic* arising from an Ulcer in the Lungs, is commonly branded as incurable, upon the Plea that the Ulcer is internal and occult, and cannot be cleansed like other external Ulcers. But why do they not make it their Business to find out the true Situation of the Ulcer, and make an Incision accordingly between the Ribs, to the end that proper Remedies may be convey'd to it? I remember about thirty Years ago, when I liv'd in London, a *Herefordshire* Woman, one Mrs. *Terry*, was perfectly cured of an Ulcer in her Lungs, by Mr. *Cooper* the famous Surgeon: Indeed he open'd with a Caustic. The Case is at large printed in one of the *Philosophical Transactions*, that came out about that time. And believe me, Gentlemen, the great Improvements in Physick must be made with solid Precepts, built upon Observation; assiduous Thought and Use improve and whet the Mind; but Sloth and Despair break its Edge.

I shall conclude with a few Observations of that excellent Author *Baglivi*.

Want of Appetite, *says he*, is the worst of Signs; no others, be they ever so good, will

will signify any thing without an Appetite is join'd with them. A good Appetite denotes a good Oeconomy of the natural *Viscera*. My own Experience convinces me of the Truth of this Observation ; and the *Bath-Waters* perfectly restor'd mine, that was almost lost. The Loss of Appetite may likewise be restor'd by unloading the foul Stomach by Vomits ; by exciting the natural Ferment by Acids, and by deterging and dissolving the Slime and Phlegm by the bitter Herbs, and the powerful, fix'd and combin'd Salts. 'Tis too often observ'd, that the Loss of Appetite and Concoction, and the Weakness consequently of the Spirits of the Blood and the *Viscera*, necessarily succeed the Sipping of the Spirits drawn from Wine and other fermented Liquors.

In all Diseases whatsoever, be sure you always mind the Tongue ; for that affords a more certain and naked View of the State of the Blood than any other Sign. All other Signs do frequently mislead us, but this seldom or never ; and unless the Taste, Colour, and other Qualities of the Tongue return to their natural State, if you consult your own Credit, you'll never think the Patient well.

The chronical Diseases of the natural *Viscera*, (or those of the *Abdomen*) are cur'd, in great measure, by riding out in the Country, and frequenting pleasant Places, especially

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cially if they depend upon the Passions of the Mind : For Medicines are sometimes fruitless, and indeed hurtful, particularly in such Diseases as proceed from a careful and anxious Mind.

A great many Men, who are otherwise strong and hale, perhaps, finding a spare, vegetable, or Milk-Diet, recommended by some Physicians in their Writings, eat their Food sparingly, and timorously, for Fear of contracting imaginary Crudities, and so falling into Diseases ; and in the mean time, this their vain Fear and sickly Imagination, occasions a bad Digestion of the little Meat they eat, and that throws them into Sickness.

Hypochondriac and melancholy Persons, and those who are naturally timorous and inconstant, are oftener sick than other People, by reason that they cannot moderate aright, or check the Passions of the Mind ; and tho' the Diseases of such Men may at first View seem pernicious and incurable, yet they are wont to be easily cured ; not by an overbearing Quantity of Medicines, but by agreeable Conversation, or the Pleasures of the Country, and frequent Riding ; or else by a Way of Living, adjusted by a prudent Physician.

Those who sicken upon the Disorder of the Mind, use chiefly to be seiz'd with the Diseases of the Stomach ; as, among other Instances, appears from Persons afflicted with

with Grief ; who complain first of a Faintness of their Stomach, and soon after of an Inappetency, a bitter Taste in the Mouth, and Thirst in the Morning, acid and nidorous Crudities, Wind, Detention of the *Hypochondria*, and the other Symptoms of a disorderly Chylification. The Chyle being indigested, and pall'd, for the foregoing Reasons gradually infects the Mass of Blood ; and the various Disorders of the Blood give Rise to divers Diseases, both acute and chronical ; and particularly to Obstructions of the Viscera, the Scurvy, Hypochondriac Illness, &c. Students, and those that read much, complain likewise first of their Stomach ; and, by degrees, the Mass of Blood and solid Parts come to be affected. And, indeed, it is no Wonder it should happen so ; for a great Quantity of Spirits being dissipated in both, by Virtue of their over-keen and tiresome Thoughts, the Ventricle thus robb'd of Spirits, generates, instead of good Chyle, an acid, viscid, and undigested Glue, which breeds Blood of the same Nature, that gives Rise to all the dismal Symptoms. Let this therefore stand for a Corollary, That in Diseases arising from the Mind, the chief Regard ought to be had to the Stomach and the first Concoction ; and the oppress'd and almost sunk Spirits ought to be rouz'd up and exhilarated : So that we must not follow the common Course of com-

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mencing the Cure of all Diseases without Distinction, with purging, bleeding, refrigerating, and moistening Medicines.

If in any Case, certainly in the Practice of Physick, we ought to know much, and to do little, especially in curing very acute or complicated Diseases; and to stifle that fatal Prejudice of some Patients, who fancy Diseases are never well cur'd, but by great and numerous Remedies, and either despise or distrust simple and cheap Prescriptions. Oh! the Ignorance of the Vulgar! How many Men, worn out with the long Tyranny of Diseases, and the frustraneous Use of Remedies, have at last, by committing themselves to Nature, quickly recover'd a healthy Countenance, and a free Respiration? How many have been cured by Negligence, or Indulgency, who had otherwise fallen a Sacrifice to the Hands of the Learned? History is Evidence of the firm Health of the first Inhabitants of the World, who neither consulted nor courted the Professors of our Art. Let me therefore conjure at once the ignorant Vulgar, and the froward Physician, to contract these Forms of Remedies; for oftentimes the Repose of the Bed, retiring from Business, and even an Abstinence from Remedies, cuts the Sinews of the Distemper, that the frustraneous Use of Remedies would have inflamed.

DEO TRIUNO *Laus sempiterna.* Amen.

A
TREATISE
UPON THE
SMALL-POX.

To which are added,
APHORISMS
In that DISTEMPER.

Medio tutissimus ibis.

By THOMAS APPERLEY, M. D. formerly
Fellow of St. John's College in Cambridge.



L O N D O N :
Printed in the Year M.DCC.XXXI.

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*being wanting to your other many
Virtues; and therefore I dare add no
more: But only leave to the
World know by this Dedication*
Thomas Symonds, Esq;

O F

**PENGETHLY in the County of
HEREFORD.**

S I R,



OUR great Knowledge in
Experimental Philosophy,
in the Theory of Physick,
and other Parts of Learning,
is so very extensive, and well known,
that should I presume to give any En-
comium of Your admirable Parts, it

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would

DEDICATION.

would, I'm afraid, offend your transcendent Modesty; which rather than violate, I am under a Necessity of being wanting to Your other many Virtues; and therefore I dare add no more: But only crave Leave to let the World know by this Dedication, that I have the Honour to be esteem'd,

S I R,

Your most Obedient Servant,

Tho. Apperley.



THE P R E F A C E.

 *HERE are so many Treatises already upon the Small-Pox, and by such very eminent Hands, that I had been quite discouraged from venturing the following one into the World, but that I am sure 'tis founded upon, and is the Result of long Observation and Experience, and, perhaps, of the most successful Practice that ever Man had: However, the young Practitioner, for whose Benefit only this was wrote, will find in it an Abstract of whatever is valuable, that has been yet wrote upon this Subject; and will, I hope, be directed to avoid such Rocks, as, to my Knowledge, too many have split upon, by adapting their Practice in this Distemper to the curious Speculations and fanciful Hypotheses of some learned Men of the Profession. But if ever the Student in Physick designs to succeed in the Cure of Distempers, he must*

The P R E F A C E.

form his Method of Practice upon sufficient Experience and Observations on the Nature, Progress, and various Symptoms of Diseases; as well as on the Operations and Force of Medicines far more valuable than the Notions and Hypotheses of an active Imagination. Dr. Sydenham, indeed, (especially in this Disease) is to be diligently follow'd; who built all his Maxims and Rules of Practice upon repeated Observations of the Nature and Properties of Diseases, and the Power of Remedies; but however, neither He, nor any one else, is wholly to be depended on; Humanum est errare.





A
T R E A T I S E
U P O N T H E
S M A L L - P O X .



THE Diagnostic Signs of this Distemper are so well known, that there is no Occasion to mention them.

The *Small-Pox* are either Distinct or Confluent : In the Distinct Sort, *nil dandum, vel parum.*

And in the Confluent Sort, in the first Days, the Patient must carefully avoid all things that may exasperate or provoke the Humours; he must abstain from cold Drink, except Necessity urges : He ought likewise to abstain from the Use of Remedies till the fourth Day after the Eruption : But because 'tis expected the Physician should do something,

thing, I generally order such a Julap, as the following :

Rx Aq. Ceras. n.

Lact. Alex. ana ℥iij.

Theriac.

Cin. Hord. ana ℥jss.

Sacch. albiss. q. s. m. f. Julap. de quo

Cap. Cochl. ij. ad libitum.

After the ninth Day, the Patient must be manag'd as if he were taken with a new Fever; for he is not quite out of Danger till the 14th, or sometimes the 20th Day, nay, sometimes in greater Danger than at the first; and therefore ought to take frequently such Things as will ease and gently cool his Body and Blood: as the Spirit of Vitriol, the Juice of Lemons mix'd in his Drink, *Decoct. Alb. Citr.* and the like. But consider the Constitution.

All Evacuations, when rightly indicated, are proper before the Eruption of the *Small-Pox*.

A very gentle Purge before the Eruption, not so as to drain the Serum from the Blood, is often of great Service to take away Impediments, by exonerating the Intestines, and giving Nature (*Morborum medicatrix*) fair Play; especially if the Patient be full of gross Humours, by eating, drinking, &c. and also if his Intestines are full of hard Excrements,

crements, that have remain'd there for some time.

But, as observ'd before, the Purge must be of the mild Kind ; for if it should work strongly, it may evacuate so much of the Lymphatic Serum, that there will be want of it in Progress of the Distemper to afford a Quantity of Matter necessary for the raising and keeping up of the Pustles and Tumours.

It becomes a Physician (*says Dr. Stubbe*) in the *Small-Pox*, to examine well in the Beginning the Constitution of the Patient's Body, if it redound with peccant Humours or no ; it being easy to apprehend, that what is a *Cacochymy* before this Disease, will degenerate into a Virulency and Malignity in the Course of the Disease. And if the Body be full of Humours, there is apparent Danger, lest the Patient be strangled, or that the turgent Humours, being either streighten'd for want of Room, or too luxuriant to be guided, will fall upon some important Part, and so create inseparable Evils in the Progress of the Distemper.

Concerning Purging, many are very timorous, because that a Looseness is dangerous in the *Small-Pox* ; as also because that they fear lest it should divert the Humours from their natural Tendency, and draw them into the Bowels. But neither of these Reasons
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are of any great Validity : For neither is a momentary Looseness (and 'tis that which is equipollent to a minorative Purge) dangerous in the first Beginning of the *Small-Pox* before they come forth ; nor is there any Danger that a gentle Purge should create a Flux ; but rather prevent any such subsequent Evil, by carrying off the peccant Humours, which by continuing in the Stomach and Intestines would contract a Malignity. And indeed this Consideration is of such Importance, that it ought to sway a Physician to give some Lenitive in the Beginning, when he sees Occasion. Neither will he thereby divert Nature from the Expulsion; but rather facilitate it, and by diminishing part of the redundant Humours, enable her to overcome the rest with more Ease : And a great many excellent Practitioners do take this Course.

As for Phlebotomy, 'tis certainly of great Service, unless the Patient be very young, or very old ; of a weakly or worn-out and decay'd Constitution ; is Cachectic, Consumptive, Hydropic, Hysterick ; that has low Spirits, and poor Blood ; such as are apt to sweat, or use to faint in Bleeding, or such as look for the Menstrues in a little time. Otherwise at the first Attack of this Disease, the Patient ought to be let Blood to a considerable Quantity, twelve or fourteen Ounces

Ounces (says Dr. *Fuller*) especially if the Person is of a robust and florid Constitution, and has liv'd high.

And the Physician (as Sir *Richard Blackmore* observes) should not be discourag'd from giving this Advice, notwithstanding the Pulse should be at first weak and low; for that often proceeds from the Oppression of the active Parts of the Blood, which being too much agitated and expanded by the feverish Ferment, labours for Room to extend its Current, that it may move along the Veins with greater Freedom: And therefore when by Bleeding it is ventilated, and made easy in its Circulation, the Pulse is so far from being weaken'd and lower'd, that it rather rises, and beats with more Strength and Regularity.

Nor should he forbear advising the Patient to be let Blood, tho' some scattering Eruptions should appear upon the Skin, for fear the *Small-Pox* should be check'd or retarded in their coming out; which is the Reason alledg'd against this Practice: for this is merely imaginary, and upon frequent Experience, I know the contrary to be true: And indeed it is very agreeable to Reason, that when the Blood-Vessels are in good measure eased from the Violence and Confusion that they feel from the immoderate Dominion of the inflammatory Pains, and the excessive Heat of the whole Mass, by
which

which it gains more Space and Liberty of Circulation, it should better perform its Duty in concocting and casting out of its Bosom the poisonous Matter of the Disease: And Observation has taught us, that violent and impetuous Motions are always a Hindrance to Separations in all Fluids ; so that if we can but hinder, lessen, or retard that, we do thereby give Leisure and Time for it ; and this, where the Blood itself is first affected, must be by lessening the Quantity of it : So that in this Case, if the Motions are violent, and the Swellings do not succeed well, Bleeding, and in Quantity, is the most reasonable Remedy ; and such Things only inwardly taken, as will retard, or at least not increase the Commotion. And this as it appears reasonable, so has it been experienc'd with Success.

Besides, should it be suppos'd, that the letting of Blood before the Eruption did (as is objected) bridle or keep back the *Small-Pox* from crowding out so hastily as otherwise they would do, would that be any Detriment to the Patient ? No, on the contrary, it would be beneficial ; For seldom any one dies (*says Dr. Springel*) because the *Small-Pox* comes not forth in the first Days, but because they come forth either too plentifully or too early : And as *Dr. Sydenham* before him observes, That no Person suffers by the coming out of the
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Small-Pox too late, tho' Multitudes do by their coming out too soon; for then they break forth before Nature has had sufficient Time to labour and digest the Matter too hastily expell'd.

But the late mention'd Author declares, That there is not any thing new in the whole Cure which Dr. *Sydenham* useth; that in the Beginning of the *Small-Pox*, before the Eruption, being as ancient as *Bayrus*, if not deriv'd from the *Arabians*; and the rest hath been inculcated by an hundred Writers, provided the *Small-Pox* were gentle; yet, as much as they have been for the keeping of them moderately cool as to Air or Diet, before the Eruption of them; I dare say, the Doctor is the first who ever did imagine, that the longer they were in coming forth, the better it was: For our best Writers, as *Mercatus*, *Augenius*, *Forrestus*, *Sennertus*, *Riverrius*, *Ronchinus* and others, do avow, that the sooner they appear, the better is the Presage. *In genere melius est variolas & morbillos icto, quam tarde erumpere*, says *Sennertus*, de *Febr. lib. iv. cap. 12.* But all this while Doctor *Sydenham's* Discourse extends no farther than to that Sort of *Small-Pox* which is mild and favourable; but should any perilous or mortal Prognostics happen, he leaves us in Obscurity, and gives us little of his Assistance.

Notwith-

Notwithstanding great Benefit may be receiv'd by Bleeding, the Constitution and Way of Living being always well consider'd ; yet 'tis observ'd of that celebrated Practitioner Dr. *Sydenham*, that in his Fulness of Experience he grew less fond of his once beloved Remedy, *viz.* Bleeding in the Beginning of the *Small-Pox* : For in his Letter to Dr. *Cole*, which was thirteen or fourteen Years after his first Essay, he ingenuously confesseth, That he did not think Bleeding, tho' ever so early perform'd, contributed so much to the Lessening of the Fury of the morbid Matter, as other Methods there mention'd : I religiously affirm, *says he*, That the worst *Small-Pox* I ever saw, and which kill'd on the eleventh Day, happen'd to a young Woman just cur'd of a Rheumatism, by that vulgar Method of large and reiterated Bleedings : And this gave me the first Hint (*continues he*) that Bleeding was not so powerful as I first imagin'd, in curbing the Violence of this Disease. It is therefore incumbent on us, diligently to examine the Habit, Temperament and Strength of the Patient, the Seasons of the Year, &c. For these Differences will make Bleeding useful or dangerous ; where there is not a pretty plain *Plethor Vera*, the Physician ought to deliberate well before he ordereth *Vena-section*. The Persons (*says Dr. Fuller*) not fit for Bleeding, are those that are very young,

young, or very old; those that are of a weakly or worn-out and decay'd Constitution; that are cachectic, consumptive, hydropic, hyfteric; that have low Spirits and poor Blood; such as are apt to sweat, or used to faint in Bleeding; or such as look for the *Menses* in a little time.

And Persons fit for Bleeding are, lusty, strong, vigorous young Men, that are well habited; such as are at other times apt to inflammatory Distempers, spitting of Blood, Fevers, Asthma; such as have liv'd high, bred much Blood, and have lately inflam'd it; such as have been used to let Blood frequently, and drawn upon themselves a Necessity of using it often; such as have any natural or usual Evacuation of Blood stopp'd.

As for *Phlebotomy*, (*says Dr. Stubbe*) were it not for capricious Humours, or indiscreet Fears of some Persons, there could be no Question about the legitimate Use thereof in this Disease: For there is not any Indication for Blood-letting which may not occur in the *Small-Pox*: And 'tis as vain a Surmise, to think that an intelligent Practitioner will do any thing rashly, as 'tis an irrational Course (tho' too common) to censure Men for the ill Success, when they act according to the best of their Judgment, and the solid Rules of their Art.

I do avow (*says he*) that *Phlebotomy* may be oftentimes prudently, and sometimes is necessarily administered in the Beginning of the *Small-Pox*, before their Eruption, and after their Eruption. And since the *French* use it with Success, he shews, that it is more requisite for us, and we can better tolerate it: For our Diet is more plentiful, our Habit of Body more firm; our innate Heat, by the Coldness of our Climate, more concentrated and vigorous; our Redundance of Blood is greater, and our Pores more dense and apt to be obstitated than theirs; and if we may aggravate the Malady from the dismal Effects and Impressions it produceth in the Faces of the Sick, I think I may say it, that the *Small-Pox* are worse in *England* (which indicates greater Remedies) for the most part than in *France*, since the Disasters which befall good Faces, are more frequent and notorious here than amongst them. In the Beginning therefore, if the Body be plethorical with either Sort of Plenitude, 'tis indubitably requisite to bleed; whereby the Redundancy is diminish'd, the Course of the Blood diverted from circulating, or stagnating in the inward Vessels, the Habit and Texture of the Body changed in order to the more facile Expulsion of the *Small-Pox* and Transpiration promoted, than which nothing contributes more to the Alleviation of the first, and Precaution of any subsequent

subsequent Fever and malignant Putrefaction of the Humours in the Pustles. And this is confirm'd by what *Joseph de Medicis* says: Whensoever the Blood is well ventilated, and insensible Transpiration free, whatever noxious and venenate Vapours are contained in the Body, which might otherwise fly up to the Head, and cause incurable Frenzies, deadly Sopors, and Epileptic Fits; or create Lipothymies in the Heart, or Difficulty of Breathing (which is a mortal Sign in this Disease) in the Lungs, or a *Diarrhœa* and *Dysentery* in the Intestines, or a Virulency in the suppurating Pustles, and corrode even the Bones and Ligaments, the Matter being so acrimonious, as *Paræus* testifies upon his Knowledge; these Vapours exhale by the open'd Doors, and the Fever abates: For any one that knows ever so little in Physick, understands that the sole legitimate and immediate Cause of Fevers is prohibited Transpiration: From what hath been said, it is evident, that of all Remedies, *Phlebotomy* is the most Impart of the *Small-Pox*, in the first Beginning, whether the Fever be a simple *Synochus*, or one that is putrid and malignant.

Neither is it only to be administred to allay the Plenitude, (which generally occurs in this Malady) or to prevent the Evils foremention'd, but frequently for Revulsion, when the malignant Matter begins to

affect the Brain, Stomach, Lungs, Intestines: For if during the Fever the Humours seize those Parts with any Violence, the Patient is in apparent Danger of Death, there being no Way to prevent the Suppuration there, and little Hopes that the Patient will survive the Distemper; or, if he do, escape a Consumption or Dropsy afterwards. It is true, the Physicians do not always regard the Distempers of the Brain in this Disease, because albeit they may be very violent in the Beginning, yet they afterward cease of themselves; nor do they appear so highly concern'd for the animal as vital Functions: And in such Cases, great Judgment is required in a Practitioner rightly to distinguish betwixt what may affright others, and what ought to terrify him: But in case the first Approach be accompany'd with a violent Cough, Hoarseness, Difficulty of Breathing, the Beginnings of a Quinsy from a pustulary Defluxion into the Glands of the Throat, or with Swoonings, Perfrigerations of the Hand and Feet; he that thinks *Phlebotomy* ought not to be administred, (if other Conditions permit) understands not himself, or complies too much with the prejudicate Opinion of the Patient and Relations. The Authority of all Physicians almost justifieth him: The Rules of Art direct him to it: The prosperous Success which frequently follows thereon, imbolden him to it; and Nature herself

authenticates the Practice by her sovereign Example ; for it is usual for Patients in the Beginning of the *Small-Pox* to bleed at the Nose : I have known five or six in one Family (adult Persons) that bled of themselves eighteen or twenty Ounces, with greater Benefit, whilst I durst not be allow'd to take away eight. And with this Opinion agrees the most experienc'd and best Writer in this Distemper (*Horat. Augenius de Feb. l. x. c. 3.*) But how much, and how often Blood must be taken away, depends wholly upon the Judgment of the Physician employ'd. When the Lancet, when Leeches, when Cupping-Glasses and Scarifications are to be made use of, the Wise do know ; and the Ignorant may learn, if they will study to improve by Study that Time which they mis-spend in censuring the prudent Actions of their Betters. The last mention'd Author (who protests he writes nothing in order to its Cure, but what six and forty Years Experience had convinc'd him of to be good) doth allow, in difficult Cases, and when the Disease is somewhat pestilential ; that the Patient bleed first at the Arm, and then at the Nose, by irritating it with Yarrow or H. Tail. I never (*adds he*) yet phlebotomis'd any ; yet 'twas because I either had no Exigency for it, or the Patients were too timorous to admit of it.

But were my own Life concern'd, I would undergo it.

As to *Vomiting*, which Dr. Sydenham so much commends for securing the Patient from that fatal *Diarrhœa* that sometimes attends the Sick; 'tis thought, that except a Person appears to be of a very gross Habit of Body, or else has had a clogging Stomach, with Loss of Appetite a pretty many Days, or Weeks rather, before this Illness happen'd, or has taken an immediate Surfeit, or else where any Relicts of undigested Food retain'd in the *Plicæ* of the Stomach till sour, or otherwise depriv'd, make it uneasy, and occasion windy puffing up, Ructus, ill Taste in the Mouth, &c. when an easy washing Vomit of Carduus-Tea may be well enough for this Purpose of cleansing the Stomach, and throwing out such Filth as lieth loosely in it; otherwise there can be no Indications (from the only having an Inclination to vomit, which so much Stress is laid upon) for exhibiting a Vomit.

Doctor *Hodges*, *de Peste*, says, That the Safety and Health of his Country and Posterity, exact of him to lay open the ignorant and cursed Practice of Empirics of all Sorts, who by giving Vomits to those that were taken with Vomiting in the Plague, increas'd the symptomatic Vomiting, and thereby downright murder'd many,

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A parallel Case (*says Dr. Fuller*) I take to be, that Vomiting which Women with Child are frequently troubled with, which is caus'd by deprav'd, offensive Humours or Vapours sent into the Stomach out of the Blood, when the Stomach itself is not primarily in Fault.

But *Dr. Stubble* says, That no Man can in Reason doubt, but the best and most direct Means to moderate the primary Fever is to begin betimes ; (according to *Hipp. lib. ii. Aphor. 29.*) for then the Distemper is less violent, and Nature less debilitated. What we are to do then, the Course of the Disease best teacheth us ; in which the most enormous Vomitings are so far from doing Hurt, that they are beneficial to the Sick : It is therefore manifest, that a Physician, who is to imitate Nature, may, in the Beginning, (as he sees Occasion, upon due pondering of all Circumstances) administer a Vomit : And here he agrees with *Dr. Sydenham*, whom he so often condemns ; For, *says he*, those excrementitious Humours are hereby evacuated, which would otherwise, in the Progress of the Disease, add to the Distemper, producing Frenzies, Sopors, or other malignant Symptoms ; also part of the superabundant turgent Matter is exhausted, and the Lungs (who are frequently endanger'd by a *Catarrh* in the Beginning) are disburthen'd ; as also the Eruption of the

Small-Pox is facilitated; Vomits being always held by the Methodists amongst those Medicaments which principally relax the Habit of the Body.

But 'tis to be remember'd, That Vomits are forbidden where Persons vomit hardly, with very great Strainings and Sickneſs; as alſo in Hypochondriac, Hyſteric, Conſumptive and Hæmoptic Caſes.

As to *Blifters*, I am of Dr. *Fuller's* Opinion, That during the Stages of Concoction and Eruption, they are poſitively hurtful: For in the *Small-Pox*, beyond any other Sort of Fevers whatſoever, the Serum of the Blood is ſo acrid and provocative to the vital Spirits, that it never lets them reſt in Quiet, but continually drives them into Ataxies and Exploſions all the Diſtemper long, inſomuch, that 'tis found abſolutely neceſſary to charm and lay them, from time to time, with Paregorics, as well as to mollify the Serum with In craſſants, and correct it with Acids. And every one knows, that even the outward Application of *Cantharides* doth ſo ſharpen the Serum, as to cauſe ſcalding of Urine, Strangury, Eroſion of the Bladder, bloody Urine, and ſometimes, ſaith Dr. Willis, a Diſentery. And beſides all this, the Evacuation by them made is wholly of the precious Lymph; which, in all likelihood, will be dearly wanting at the latter End of the Diſtemper,
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and should be preserv'd : And whenever Epispastics come in use, Emulsions, Incrassants or Acids ought to be given to take off their Malignity and Causticity.

Vesicatories, says Dr. *Stubbe*, exulcerate the Bladder, cause bloody Urine, and procure a vexatious *Tenesmus*, (which I have seen to fall out when they were apply'd in other Distempers); but because the innatur'd Matter being attracted to them, may cause a Gangrene, or otherwise endanger the Patient, upon which Account, I do not remember any that ever propos'd them in this Disease.

As to *Blisters*, (says Sir R. Blackmore) I cannot approve of them in this Case, and for this Reason; That that Remedy will quicken and stimulate the Blood and Animal Spirits, expand their Structure, and accelerate their Motion; and therefore in a Lethargic, Paralytic or Apoplectic State, and in other Distempers where the Blood is sluggish, and the Spirits are loaded with a Collection of crude Humours, they are very beneficial; and the Reason is manifest: But in the Case before us, the Spirits are already too much expanded, even to Fury, and therefore cannot be reliev'd by Remedies that will stretch them farther, and spur them on to a swifter Motion: They do not want a Spur to quicken, but a Bridle to restrain them; not Medicines to widen
and

and enlarge, but to reduce and contract them : And I have seen the Event answer this Reasoning ; for when Blisters have been apply'd in obstinate Wakefulness, when the Heat of the Blood was excessive, and the Pulse swift, they have not produc'd a Minute's Sleep : On the contrary, the next Day the Wakefulness was improved to a downright Delirium, approaching to a Frenzy. This, I say, I have observed in inflammatory, and likewise in malignant Fevers, when attended in a great abundance of miliary Eruptions.

'Tis thought that the Matter occasioning this Distemper is of a venomous Nature : 'Tis observable that in Children, convulsive Motions, a harmless Symptom, often usher the Eruption of this Distemper ; and 'tis suppos'd, that the Nerves and Animal Spirits are first affected by this Disease : and when the Matter of it is cast off from the Nerves into the Blood, and are thence, after a due Preparation and Digestion, thrown out into the Surface of the Body, the Symptoms which before that time afflicted the Patient in a very great Degree, are removed. Things now having taken another Turn, the Fever is greatly abated, and the Blood and Spirits restor'd almost to a State of Quiet and Tranquility. But this is only in the Distinct Sort ; in the Confluent Sort, the Fever often continues to the End of the Disease,

Disease, only vary'd in the different Stages of it, as it is accompany'd with greater or lesser Symptoms. Dr. *Springel* says, That the *Small-Pox* is caused by the Mothers luxurious living before and after they were with Child; for their Drink is not only strong and sharp, but their Victuals must be well spiced and salted; whereas their Diet should be simple, and without such deleterious and hot Mixtures, so highly forbid by the Ancients to Women with Child, as being most certainly no suitable Food to a tender weak Infant, which they are to nurse: For these must needs create a salino-sulphureous and sharp Humour in the Blood of the Child, which gradually becomes more and more putrid, subtle and corrosive, till 'tis excited to vent its Rage, either by such like adventitious *Miasmata*, or by its proper eroding Quality and vast Quantity, to irritate its Solids towards its sudden Expulsion; for otherwise Death will be unavoidable. But how this Humour can lie so long in the Body without doing any Injury, is a Question that concerns us no more, than the Reason why pestilential *Miasmata* lie for many Years dormant in the Body? Or why the Venom of a mad Dog can lodge quietly so long before it vents its Rage? Besides several other parallel Instances to confirm this Truth, many other Causes have been assign'd for this Disease; but

but this to me appears the only one, at least the nearest to Truth.

'Tis observ'd by Dr. *Clinch*, that *Alhasarivius*, an eminent *Arabian* Physician, says, That he hath experienc'd the Poison of the Bite of a mad Dog to lie dormant forty Years before it produc'd any visible Effects. And I am very credibly inform'd, that 'tis not many Years since the Effect of this fatally broke out upon a Gentleman at *Bath*, about twenty Years after he had been bit. The Case, as I remember, was this: " A Gentleman came to the *Bath* to drink " the Waters for some Indisposition; and " after drinking them a few Days, began " to feel a Pain in one of his Hands near " the Thumb; which growing trouble- " some to him, he ask'd his Physician about " it, who prescrib'd what he thought pro- " per. The Pain still continuing, and in- " creasing, the Patient in a short time be- " gan to have a Disgust to all manner of " Liquids: Upon which, his Physician " ask'd him, If ever he had been bit by a " mad Dog? At first he seem'd a little " surpriz'd at the Question; and upon Re- " collection, told him, That he had; and " that it was in that very Part of his Hand " where he had all along felt the Pain; but " that it was above twenty Years since." This Patient dy'd in a very few Days after.

Some,

Some, says the eminent *Boerhaave*, are immediately affected with this Bite; some not till twenty Years after they are bit.

Baglivi affirmeth, That the Impression of the Venereal Disease stuck to the Blood for thirty Years together more, and without any Trouble or Injury to the Patient's Health: But then there was a sharp Return of Symptoms, as much as if it had been on the first Onset.

The Venom of the Plague (*says Dr. Fuller*) is as it were a Quintessence, and, perhaps, the most volatile of all Poisons in the World, and yet 'tis believ'd it will lie dormant a long time; otherwise a Quarantine or Lustration of forty Days would never have been impos'd and severely enjoind upon Ships.

'Tis suppos'd, that in Epidemical Times, venomous *Animalcula* swimming in the Air, meet with that virulent Substance that may possibly be bred in the Body, which causes this Distemper. 'Tis thought that the Serum of the Blood is the Receptacle and Vehicle of all Animal Salts: And when it is overseason'd with muriatic Salt, it occasions Scurvy, Catarrhs, Coughs, Consumptions, Putrefactions, cutaneous Eruptions, Ulcers, &c. When heterogeneous, malignant or venomous Corpuscles are either bred in it, or brought into it, it is the Cause
of

of Fevers, putrid, malignant, contagious or pestilential.

'Tis the Opinion of Father *Calmet*, That in general, all Diseases that affect the Skin, are at first occasion'd by small imperceptible Worms that insinuate themselves between the Flesh and the Skin, and then upon the inner Skin, and afterwards upon the Extremities of the Nerves and Muscles; and which, in short, produce all those Effects that are observ'd to appear upon the Advance, in the Progress, and on the Completion of the Leprosy, or any other Disease which is of kin to it.

It is certain, that there are few Persons, sick or well, who are free from Worms. They breed in the Bodies of Men, and other Animals, by means of a Seed convey'd into us by the Air, and our Food. The Air which we breathe, and the greatest Part of the Fruits and Nourishment which we take into us, are full of Insects, that willingly adhere to our Bodies on account of the Warmth they find in them, which contributes to their Entertainment, and enables them to propagate. The Things that surround us, and of which we make use, are often fill'd with imperceptible Insects, which are Enemies to our Health, since they support and nourish themselves at the Expence of our Bodies.

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The late Discoveries of Physicians and others, who have made use of the Microscope, have let us into the Knowledge of a world of little Animals before undiscoverable to our Senses; and which demonstrate to us, that there is scarce any Body that has not its particular Sort of Worm: They are in the Air, in the Water, in the Earth, in Fish, in Fruit, in Trees, in Stones, in Stuffs, in Mortar, in Glass itself, and in the most solid Bodies. Man is the most subject to Worms of any Creature; there is scarce a Part in his Body which is not attack'd by them; every one knows they are bred in the Bowels: They have been found in the Brain, in the Liver, in the Heart, in the Blood, in the Bladder, in the Navel, in Ulcers, and in the Skin. The Body of Man, after Death, is destroy'd by Worms; and an infinite Number of Children and grown Persons die of them.

It has been observ'd, by the Help of Microscopes, that a Gangrene consists in an infinite Number of little Worms, which breed in the mortify'd Flesh, and which produce others of the same Kind continually, which destroy the neighbouring Parts of the Body. According to some Physicians, the Plague itself is occasion'd by a certain Poison spread in the Air, which is communicated to the Blood, and so to the nervous Juice, and the more solid Parts of
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the Body, by means of certain small Insects that are in the Air, and which we receive into our Bodies by Respiration. This is the Method that our modern Physicians take to explain the Communication of Epidemical Distempers. They imagine they are propagated by little Flies, which are detach'd from the Ulcers of the Infected, or from the Pustles of those that have the *Small-Pox*. And we are told, that their Observations in this Affair are made with great Exactness.

I come now to the Augment of the *Small-Pox*, by which I mean, all the Time from their first sensible Appearance, until they swell up, imbody, and exchange their red Colour for one more white : During which Time commonly the Fever ceaseth, or giveth little of Trouble to the Patient : And this extends usually to the seventh, ninth, and sometimes the eleventh Day. It is not here to be debated, whether we may let Blood in the Augment, when it is gentle, and our Prognostics happy, but in difficult Cases ; as, if the Fever be so far from any Alleviation upon their Appearance, that it increaseth, and their Symptoms become more terrible : If the Difficulty of breathing become greater, or continue violent : If the Throat become very sore, and be accompany'd with a Difficulty of swallowing : If the first Deliriums persist, and there be
Danger

Danger of a Frenzy or Convulsions : If the Cough be vehement : If Swoonings or Vomitings begin, or continue : If a Looseness or bloody Flux, or bloody Urine ensue : If they come out interruptedly, and disappear after they have come forth : If they come forth of a dangerous Colour, or be very hard or horny, (as they call it) or interspers'd with purple Spots : If they come out in such Multitudes, that Nature seems oppress'd, and incapable of disburthening herself, or ruling them in order to due Maturation : If apparent Danger threaten the Eyes : In these (and other Cases that are perillous) Bleeding hath been thought necessary, and has been us'd with Success by the most eminent Physicians, as *Valesius, Mercatus, &c. in Spain; Horat. Hugenius, Dilectus Lusitanus, &c. in Italy; by Jos. de Medicis, Tho. Bartholin, &c. in Germany.* And the Reasons for this Practice may be deduc'd from what is said before, concerning the general Effects and Utility of Phlebotomy.

As to the Regimen in this Distemper, 'tis certain, there is less Harm in a cold than a hot Regimen; but Regard must always be had to the different Constitutions of Body, for according to them the Regimen, and the Cure must be manag'd : For tho' cool Medicines and Regimen are for the most part to be us'd in a Fluxing *Small-Pox*, yet

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sometimes,

sometimes, and in some Constitutions, the contrary may be necessary.

Dr. *Fuller* says, That he was with a Gentleman, who lay sick of a Confluent Sort : The sixth Day (or thereabouts) he found in his Face both Pustles and Interstices look not pale, but white ; his very Visage was frightfully alter'd, and it look'd just like a dead Face ; his Pulse also fail'd much. He wisely consider'd that his Patient used to drink a pretty deal of Wine, tho' never to any great Excess ; therefore he gave him presently a good Glass of strong Port Wine : Upon which his Colour, Countenance, Vigour, and Pulse all grew better ; and order'd a Glass or two of the same every Day after till he grew well.

And the Account that the Doctor had from my Friend Mr. *Gryft*, an eminent Apothecary at *Bath*, was some time since sent to me by a Relation of the young Patient, viz. That about the Year 1716, Bishop *Hooper's* Grandson, fifteen Years old, fell sick of the *Small-Pox* at *Bath* : Dr. *Bettenson* (who liv'd there) found him at the time of Eruption, in all Appearance, expiring.

Upon this he ply'd him with stale strong Beer, Mountain-Wine and Brandy : He drank plentifully of these Liquors twelve Days or more : He took a Bumper every half Hour he was awake : But Dr. *Fuller* conceives

conceives that 'twas only a Bumper of Beer, and Wine, and not of Brandy; tho' the Account I had was of each. He recover'd. As also did two of my Lord *Paulet's* Sons, and two of his Servants. But, *adds he*, by this Method some dy'd. The Reasons Dr. *Bettenson* gives for this hot Regimen, may be seen in a Letter from him to the Reverend Mr. *Jackson*, annex'd to a Sermon of his preach'd at the *Bath*, and dated *February* the 7th, 1701-2.

And in *Cook's* Observations upon *English* Bodies, *Coun.* 93. *pag.* 322. you have the following Account.

This was out of Dr. *Stubbe's* Collection; which take, as writ by himself, as to the *Small-Pox*.

" Sir *St. John Charnock* of *Shutford* in
" *Bedfordshire*, assur'd me, that his only
" Son, living at *Cambridge*, visited one that
" had the *Small-Pox*; being sent home there-
" upon, he fell very ill at his Stomach,
" Head, Back, as is usual before the *Pox*:
" The next Day he was well, and also on
" the third.

" The fourth Day he seem'd mortally ill,
" with Vomiting, and violent Fever: His
" Lady warm'd him a quarter of a Pint of
" *Malaga* Sack, and put to it a good Spoon-
" ful of Sallet Oyl, and gave it him, hold-
" ing an Orange to his Nose, that he
" vomited it not up: The next Day the

“ *Pox* came out kindly, and he had but
 “ few in his Face, Hands, Thighs, nor on
 “ his Body. He had no ill Symptoms after,
 “ but sat in his Bed, and play’d at Cards
 “ till well. His Man catching them, and
 “ being light-headed, got out in the Snow :
 “ He was brought in, and had the same
 “ Potion ; and altho’ they were struck in,
 “ they came forth again almost as black as
 “ Jet, yet with no ill Symptoms ensuing, but
 “ he became immediately well, and reco-
 “ ver’d. She gave him afterwards sometimes
 “ a little warm *Malaga* or *Canary*.” This
 Course he assur’d me he had try’d many
 times in their County, and always with the
 like Success. *Novemb. 5. 1671.*

’Tis observ’d, that such Persons are most
 obnoxious to the ill Effects of a too cold
 Regimen, as are of a cold Constitution ; are
 of tender lax Bodies ; are apt at other times
 to catch Cold ; are used to wear much
 Cloaths, or Bed-Cloaths ; ancient People ;
 those that are low-spirited ; Green-sickness
 Girls, &c.

And indeed I am of Dr. *Fuller*’s Opinion,
 and I know it by long and very successful
 Experience (*Deo Gloria*) to be true ; that
 the Regimen in this Disease ought to be so
 adjusted, that the necessary Ebullition be
 duly carry’d on, and be neither too remiss,
 nor too high, but in such a middle, mode-
 rate Degree, as the several Stages of the
 Distemper

Distemper require ; and then the right ordering of this is a Matter of the greatest Moment : For the Ebullition may be so check'd, as not to be sufficient to carry on the Work of Concoction. This may happen from the very Beginning of the first Fever ; and by too cool a Regimen, the Pores of the Skin may be so shut up, as to render the Eruption very difficult and irregular, when the Matter is prepar'd and ready for it. This Danger is greatest near the time of Eruption, but may continue all the four Days of this Stage. The morbid Matter likewise which was prepar'd, and began to be thrust outward, may be driven inwards, and be resorb'd into the Blood again ; whence the Fever and ill Symptoms which should now remit, continue, and grow violent. This may happen after Eruption is begun. And where there is a great Quantity of variolous Matter assimilated, if it be hinder'd from coming out, it may seize upon the Viscera, the Stomach, Guts, Mesentery, Liver, Lungs, &c. This may happen also in the Stage of Eruption, and be continu'd afterwards thro' all the other Stages, where it may hinder Colour, Augmentation, Maturation, and Salivation.

But notwithstanding all that has been said, these Mischiefs do not so frequently

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happen,

happen, nor are they so pernicious as those that are caus'd by the over-hot Regimen ; which Nurses are apt to fall into, to bring out (as they imagine) the *Small-Pox*.

'Tis a pernicious Custom which prevail'd formerly among Persons of better Fashion, and still continues among the People of a meaner Condition, especially among the ignorant Inhabitants of the Country, to administer strong Wine and hot Cordials, such as Saffron, Venice-Treacle, Mithridate, Diacordium, and other Medicines of the like active Quality, with Intention to help Nature to drive out the Pustles, which is to stimulate and push her on to throw out the crude and unconcocted Matter before its time, which she was too apt and ready to do before for her present Ease, but to her greater Danger afterwards. This is to employ Oil to quench an Inflammation, (as one says) and for composing Strife and Sedition begun in the Blood ; to send in Auxiliary Incendiaries, which will succour and animate the licentious and ungovernable Parts, and thereby propagate the Disorder and Confusion intended to be controll'd and appeas'd.

And by this means, such a Hurry of the Spirits and Confusion of the Blood will be caus'd, as will hinder the morbose Particles from being extricated from the Mass ; and by

by that means Expulsion (which this first Work should make Way for) must be either imperfectly perform'd, or totally stopp'd.

And likewise that the Sick, by this Method, falling into profuse Sweats, so much of the *Lymph* may run out at first by the Pores, that there will not be a sufficient *Penus* left to supply Matter for the Growth and Maturation of the Pustles and the Tumescence of the Interstices, Face and Hands.

That such Particles and Humours may be forc'd out with the Sweats, as are neither adapted for Expulsion, nor agreeable to the Nature of a variolous Pus: Whence come intolerable Itchings, purple Spots, discolour'd, watery Pocks, and the like ominous Symptoms.

That the hot, infected, and inflam'd Blood being rapidly hurry'd on, may break in upon the Brain, and put the Animal Spirits into great Disorders, and produce Watching, Coma, Frenzy, Convulsions, &c. Or falling cruelly into other Parts, may cause Peripneumony, Hæmoptysis, Diarrhœa, Dysentery, Strangury, blood Urine, &c. All which are generally mortal.

By this means the Patient, who commonly before the Act of Eruption is in utmost Anguish, may be overborne with Heat and suffocated, or may be render'd so sick and faint,

faint, that he hath not Spirits and Vigour enough left to force out the morbid Matter.

This I'm assur'd, *says Dr. Fuller*, hath been a frequent Case. I remember particularly, an only, and very hopeful Son of a good Family, thus fired out of the World by the unhappy Tenderneſs and blind Care of his Widow Mother.

Dr. Sydenham ſhews you the diſmal Effects of a too hot Regimen: And the greateſt Part of thoſe that die in the *Small-Pox* are ruin'd this Way. And there is no Phyſician, indifferently vers'd in this Diſeaſe, but knows many murder'd by this ſame well-meant, but ill-employ'd Cure. And if any do eſcape, 'tis ſo as by Fire.

Small-Beer is certainly the moſt agreeable Liquor in this Diſtemper; or take Barley-Water and Milk, of each a Pint; of White-Wine half a Pint, which is not ſo ſweet and fulſom as made with Sack, and quencheth Thirſt better: Or if this be too clammy, as the Milk makes it to ſome, an equal Quantity of White-Wine and Water may be boil'd, and drank warm *ad libitum*.

I would have no kind of Stay, (*says Dr. Fuller*) put to the Throat till the Time of Eruption be over, or till Salivation ariſe: For I am well aſſur'd, that keeping it hot bringeth abundance of variolous Matter and Puſtles into the inward Parts, which are grievouſly

upon the SMALL-POX. 233

grievously troublesome at the End of Salivation, and frequently very dangerous.

This Salivation Nature raises usually about the eighth or ninth Day from the first Invasion; and this is so constant and so necessary, that it seems equally requir'd for the Recovery of the Patient, with the Ripening of the Eruptions itself.

To promote this so necessary Evacuation, you must keep the Neck and Throat warm. Let nothing come into the Mouth that is actually cold or astringent. Wash the Mouth frequently with Small-Beer alone, or with a little White-Wine or Cyder, or Sal Prunel, when a Salivation can't be procur'd. What if in this Case, Diuretics should be insisted on?

If the Compages of the Blood be so strict and close, as not readily to colliquate and part with its variolated Serum, and send it into the Salival Ducts; a very liberal Use of such Drinks as dilute, refrigerate, and attenuate, will be very serviceable.

*R Cort. Rad. Petrosel. Fœnic. ana ʒij.
Glycyrrh. ʒ℞. coq. in Aq. font. ℥iij. ad
℥ij. Col. adde Syr. e 5 Rad. ʒij.
F. Decoct. in quo dissolv. possint Sal. Prunel.
vel Flor. Sal Armon. vel Ol. Vitriol.
pro medici judicio.*

How

How to manage Women with Child. *See Dr. Fuller, p. 319. If they have the Menfes, p. 308.*

Heat and Suppreffion of Urine are caus'd by the Acrimony of the Serum, fiery Heat of the Blood, and violent Efforts of the Spirits, whereby the Reins, Ureters and Bladder being inflam'd, pain'd and constring'd, are hurt and disabled, and put by their Functions.

Reverius attributes a total Suppreffion of Urine, to a stretching Fulness of Blood, and an overstraining of the Parts beyond their Tone : And he cured it by letting of Blood, without any other Remedy.

Now (*says the well-experienc'd Dr. Fuller*) if we could let Blood in this variolous Case, it is likely we should thereby give Relief. But (*says he*) it will scarce ever be granted ; and if it should not succeed, will be notoriously scandalous (but I can't see why) : Therefore the most proper Thing yet known for us to insist upon, in order to correct the Acrimony of the Serum and Fervour of the Blood, is, a liberal Use of *Ol. Vitriol.*

One had labour'd several Days of a total Suppreffion of Urine, without any Stone or drop of Water in the Bladder ; whereupon *Dr. Baynard* gave a great Quantity of Acids : Upon which the Patient made Urine plentifully, and recover'd.

As

As to Bloody Urine, if it happens at the Beginning, it does not certainly presage Death; but if it happens in the Middle or latter End of the Disease, 'tis very seldom, if ever cured. See Sir R. Blackmore of the Small-Pox, p. 56. &c. And for a Looseness or bloody Stools, p. 58, &c. And Dr. Fuller, p. 304. Who orders the following Cataplasm, when proper, to be put on the Throat from Ear to Ear, viz. "Rue beaten up with *Axung. Porc.* which when it is spread upon Linen, had *Millepedes* bruised alive, and laid upon it; and thought it did a great deal of good." He likewise advises, that during the whole time, till Eruption is quite finish'd, all their Drink be actually cold, that it may repel from the Throat, as also from the *Oesophagus* and Stomach; farther, to keep back Humours, and too early a Salivation, let the Patient frequently hold in his Mouth, without gargling, this, or something like it, cold.

℞ *Herb. Plantag. Fol. vitis, Cort. Prunel. silv. Balust. ana zii. Coq. in Aq. f. 3xx. ad xxv. in Col. dissolv. Mel. Ros. 3ij. Ol. Vitrioli q. s. ad gratiam.*

But after Eruption compleated, he forbids all actual cold Drinks, as also all Repellents; but allows as much as the Sick pleases, without overcharging or palling the Stomach,

Stomach, with Acids in it, which, he says, are the true and proper Correctors of Acrids. When therefore in any of the Stages, before that of Augment be fully ended, if the Heat and Hurry of the Fever run high; if there be watching, or Delirium; if Hæmorrhagies, red Flushings, or petechial Spots appear, Acids and Paregorics are the best Things I know of. The most potent Acid is *Ol. Vitriol.* not dulcify'd with Spirit of Wine; for that dulcifying is, in my Opinion, quite spoiling of its Virtue, and rendering it a weak Business, good for nothing.

It may be dropp'd in all the Liquor he drinks.

℞ *Infus. Ros. vel Aq. Lact. ʒij. Diacod. ʒj. Ol. Vitriol. gt. viij. m.* This makes it very sharp.

A Decoction of Figs, ʒiv. Liquorice, ʒß. with a little Cochinele, ʒß. boil'd to a Quart, in which ʒj. of *Gum. Arab.* may be dissolv'd, is a proper Drink when the Stomach wants a Cordial, and the Blood at the same time is hot: 'Tis adviseable, to give but one Spoonful at a time, and very often, to the End that it may affect nothing but the Stomach itself, and be diffused and wholly spent there in that Part; for a greater Quantity would be apt to enter into the Blood, and heat it more.

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I do affirm (*says he*) That Ambergrise is our most universal and generous Cordial, from which no Detriment (if rightly given) ever happens, but great Benefits ensue from the taking of it.

I should now proceed to the last Stage of Maturation ; but before I do that, I shall give Sir *R. Blackmore's* Opinion ; and indeed, I have found it right by Experience, in relation to the hot and cold Regimen, whereby the Mischiefs of both may be avoided.

To compromise the Controversy (*says he*) between the contending Parties, and to set the Matter in a true Light, it must be consider'd, that there is so great a Solution and Disruption of some Parts of the Blood, sometimes in a lower, sometimes in a higher Degree, as makes them incapable of being reunited and consolidated again with the sound Parts from which they are broken off ; but they must be digested and expell'd, or Nature must sink and fall in the Attempt : And in this Disposition of the Blood consists what we call Corruption or Putrefaction, and which, for its Conformity in all its Properties to Gangrene in the solid Parts, I call a State of Mortification. And agreeable to this, is what Dr. *Bettenson* says in the aforementioned Letter to the Reverend Mr. *Jackson*, That there is a Deadness in the Blood in a great many People that Wine won't raise,

raise, but in great Quantities; and therefore, to give the Blood Life and Strength, is the only rational Way to secure People: This Deadness (*says he*) is common in the Plague too, and requires Brandy, which secures People in this Distemper beyond other Things: But this Method must be accommodated to the Person, and 'tis few in either Disease that find it disagreeable. But to return.

Now it is very evident, that in such a State, two Intentions of the greatest Importance are to be pursued: One is to encourage and invigorate the active Principles of the Blood, and enable them to subdue and concoct the putrid Materials, and exclude them from their Fellowship: The other is to contract and bind up the loose Structure and Frame of the Blood, and hinder the Dissolution and Rupture of the Parts, and so prevent the Progress of the Putrefaction; which will likewise be a prevalent Means to reduce the excessive Heat that arises from the Conflict between the sound and active Parts, and those that are corrupt and putrify'd: Now upon this it will appear, that the contending Parties are both in the right, and both in the wrong. Those who insist upon the hot Method, act very reasonably, in prescribing proper Remedies to reinforce Nature, and assist the operative sound Parts of the Blood, that by this Means they may
be

be more prevalent and successful in digesting and expelling the putrid and malignant Matter of the Disease ; and by these generous Recruits, and timely Succours, they answer the first important Intention above-mention'd. And the Patrons of the cold Regimen, by plying the Patient with astringent, cooling, and diluting Remedies, serve the other Exigency of Nature, by contracting and strengthening the Contexture of the Blood, and preserving the Integrity and Continuity of its Parts ; by which Means a Check is given to the farther Solution and Seccession of them from each other ; by which Means likewise, the excessive Heat is mitigated and restrain'd. Thus far they are both in the right : But then they are both defective and erroneous, while the Gentlemen of the hot Regimen depend wholly, or chiefly at least, on their warm and active Cordials, oppos'd to Putrefaction ; and the others rely too much, if not entirely, on the cooling Method. I know it will be said, that cooling Medicines, such as Juice of Lemons, and Spirit of Vitriol, are very prevalent Medicines against Putrefaction ; and I allow that they are so, in their manner of Operation, by confining and binding closer the sound Parts of the Blood, and so keeping them together, and preventing their farther Separation, in which Putrefaction consists : But when many
Parts

Parts are already corrupted, dissolv'd, and thrown out of the Structure of the Blood, and cannot be re-united so as to recover their former Texture and Cohesion, it is the Province of active, generous, and enlivening Remedies in this Juncture, to assist Nature in digesting, and sending out into the Skin these ruin'd and mortify'd Particles, which cannot be perform'd by cold and astringent Medicines, that will rather suppress and abate the Vigour of the active Principles, and so far reduce the vital Heat, as to disable it to discharge the great Office and Duty of Concoction and Exclusion; and therefore, in my Judgment, the Gentlemen of the Hot Method, and those of the Cold, are, singly, but half Physicians for the Confluent *Small-Pox*; and both united and blended together, would make a compleat Practiser: One that consolidates the hot, and cold Method, and unites in his Prescriptions cooling, astringent, and diluting Remedies, with warm and generous Cordials, in equal or different Proportions, as the Relief of Nature requires, that is, as the Pulse is more to be quicken'd, animated and inspirited; or, on the other hand, to be reduc'd and brought to a lower State, which likewise is the Case of Malignant Fevers.

I come now to the last Stage of this nasty Distemper: When the Pustles are come to
Matu-

Maturation, and the second Fever, as 'tis call'd, endangers the Life of the Patient ; I mean in the Declination of the Disease, when the Matter in the Pustles is condens'd into Scabs, and they dry up, and the *Epi-dermis* with them doth pill off, leaving Impressions or Marks in the Skin. And here I think all Evacuations (as before the Eruption) rightly indicated, may be proper.

As to Purging, indeed, the ancient Physicians observ'd, That a Flux in the Declination of the *Small-Pox* is generally mortal, altho' it be not accompany'd with a *Dysentery* or Exulceration of the Guts. It is no critical Evacuation, because such happen not at that time ; and because it befalleth the Patient in the most unseasonable time of the Disease, when Nature is most debilitated with the precedent Disease, and ought rather to testify Signs of Strength, than of farther Imbecility ; Purging therefore is dangerous, and Astringents full of Hazard. And with these agree some of the modern Physicians. One says, That if it be demanded, whether in this Case purging Medicines ought to be administred to carry off the Putrefaction, and so bring the Contest to a happy Conclusion ? his Answer is, That he can by no means approve of that Practice ; having made Trial of it, but never once saw any good Event. The purging Medicines, instead of carrying off the putrid Humours, diminish

the Patient's Strength, and Nature, before almost exhausted, being more enfeebled by this unseasonable Evacuation, always sunk beneath her Burthen; and I have known that other Physicians have had no better Success: and it would be wonderful if they should; for while the malignant Matter is crude and indigested, no evacuating Medicine can disengage and free the Blood from it. It is in vain, says he, to bring a few strain'd Observations, and drest Narratives to establish any Practice that opposes common Sense and the Experience of skilful Physicians, by any Examples or Histories produc'd to favour a novel Doctrine, and serve an Hypothesis.

However, the late learned Dr. *Freind* adviseth Purging on the ninth or tenth Day, and gives many Instances of surprizing Success therefrom. But a Suppositary, which only irritateth the *Anus*, or a Clyster, which passeth not beyond the *Valve* of the *Colon*, is thought more safe at first than a Purge, which raketh all along the whole Tract of the *Intestines*. Not but a gentle one is certainly proper where the Excrements, by lying long, being corrupted and tainted with variolous Matter, grow so abominable and offensive to Nature, that she can no longer endure them; then (that is about the tenth Day) it will be needful to relieve her, by taking away some Part at least of the Burthen.

then. And, as one observes, besides the Use of disburthening the Belly, there is a second, and that a very considerable one, namely, of forcing out of the Blood, and attracting into the Guts, and thence carrying off the variolous Substance itself and putrify'd Matters, and by that means of directly curing the Fever, by subtracting its very material Cause. An Ounce and half of Manna dissolv'd in Water-gruel, has, with desired Success, been given the tenth Day; and when it hath not operated, the same hath been repeated the eleventh: And if it worked not then neither, the same Afternoon a Clyster has been order'd of Water-gruel, Butter and Sugar.

But we must observe, as an excellent Practitioner does, That when a Laxative is requisite, we must take Care to choose such an one, as hath no biting, fermentative, griping Quality, that will not painfully provoke the Guts, nor strongly attract Humours out of the Blood, nor increase the Febrile Commotion; but only such as will but just soften the Excrements, quicken the Peristaltic Motion, and rather gently press, than roughly cast out the Contents.

But I know not how to express my own Sentiments as to this contested Point, better than in the Words of a late anonymous Author in a Discourse concerning Fevers. We have some Physicians, *says he*, of great Learn-

ing, sound Judgment, and equal Probity, who have lately advanc'd a Position entirely repugnant to the Opinion of their Predecessors, *viz.* That before the Time of Maturation is compleated, if any Danger seems to threaten, we are to begin this Method of purging the Sick, and must now lay all the Stress upon these Medicines repeated daily, or each other Day, as the Circumstances allow, or the Case may require.

I must own, I have yet some Doubts upon my Mind, concerning this new Way, having so often been a Witness of the fatal *Diarrhœa's* that, about this Time, have carry'd off so many of my Patients, in spite of all my Endeavours to bridle the same: Infomuch that, unless in the Confluent Sort, in Infants, and young Children, when, as Dr. Sydenham has observ'd, these Stools are a kind of Substitute to the *Ptyalism* of the Adult, happening at the Beginning of the Distemper, I am always fearful of the same, since in the milder Species thereof, when all things go as well as we can wish, nothing is so common as a constipated Belly: Nor did we think, till lately, that any of the Afflicted suffer'd for Want of Stools, tho' it were for ten, eleven, or twelve Days successively, or till the Suppuration of the Pustle, and the Scab beginning to dry away: But then, on the other hand, if before,

fore, or even at this Time they fell into a Flux or Looseness, we were apprehensive Things would not go well, as Experience too often hath confirm'd to us ; and therefore for some Years past, when at any time about the State of the Disease, or the Return of the Fever, which is call'd a second one, I found the same high, great Thirst attending, Oppression on the Breast, Delirium, &c. and a Pusle rather fill'd with a crude, wheyish Liquor than Pus : When at these Times, I say, I have adventur'd to direct a domestic Clyster of Milk and Sugar, to soften the hard Excrement in the *Rectum*, in order to relieve the Head, it has sometimes answer'd : At others, (so fickle and uncertain is the State or Condition of Physick, together with that of its Professors) in the Place of one, we have had, it may be, ten or a dozen Stools thereby ; so that, with much Difficulty, the same has been restrain'd, and the Patient sav'd. What now must have been the Issue, had a Physical Clyster (if no other than the common emollient Decoction, of which the Relations were not appriz'd) been thrown up, but this, that I had surely taken wrong Measures, or that the Apothecary had made some Mistake, by which the Sick was thus in Danger of being destroy'd ? And truly I have been less adventurous this Way, perhaps, than any others, encourag'd by

whatever Authorities, having often been a Witness of such wonderful Alterations after one Night's time, in the Advance of the Pustle, its filling, and sudden Change from crude to a concocted Matter, with a Return also of the Spitting or Expectoration which had ceas'd the Day before ; and when, if I had ventur'd upon a simple Clyster instead of Blistering, which I now prefer, or that more Stools than I expected should have follow'd, I had, in all likelihood, put Nature out of her Way, and hinder'd the Business of farther ripening this immature Production, which she was bringing about.

But these Gentlemen tell us, They do not set upon their Purging, till she has done all she can upon the Outworks of the Skin ; or that the Pustle, now growing black and crusty, instead of filling more, is incapable of receiving any Humour from the *Sinus* of the Blood ; and that in vain do we expect ripe Fruit from the wither'd and dry Branches : That therefore the Diseas'd has no other Chance for an Escape, than by stimulating the intestinal Fibres, to help discerning of those putrid Humours, which the cutaneous Glands are now unable to effect.

This, I must own, carries a *Rationale* along with it, and has seemingly much Weight therein ; but when they say, we run no Hazard by the Purging Method, of
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the Swellings of the Hands subsiding, after that of the Face begins to fall, or the Pustles thereon, before their State of Ari-faction ; neither yet, that the Salivation will be thereby impeded, they will give me Leave to hesitate a little, till I have made a sufficient Number of Experiments, to confirm me in this Belief, or till I can reconcile the driving from the Center to the Circumference, and from the Circumference to the Center, are much the same ; or last-ly, that I am satisfy'd we may be able to eliminate by these Stools, those very indi-vidual morbid Particles which Nature had intended, and endeavour'd, altho' in vain, to cast out by the Skin. -

In other Eruptive Fevers, I am sure this is a most dangerous Practice ; since nothing is more common than for one or two loose Stools, at these Times, to overset the Pa-tient.

And thus, *adds he to the young Physician,* dear Sir, you have the Sum of my Thoughts upon this very slippery Subject, who can-not think a few remarkable Recoveries un-der the Purging Regimen, brought to coun-tenance the Practice thereof, should avail, while we see abundantly more People die of the Disease with a Looseness upon them, (and which alone destroys them) than can be truly said to escape thereby.

You know what our Friend *Wagstaff* has said of this Disease ; That there are some whom the Physician cannot cure ; and others that the Nurse can't kill : I wish with all my Heart, that by many more dying than doing well under this hasty Purgation, we give not Occasion to have the Phrase inverted : I am sure I would not have you enterprize it, but in Consultation with some, whose Character may be sufficient to secure you from Obloquy, in case of a Miscarriage : Neither then, till you are convinc'd in your own Mind, that there is room for no other Way by which your Patient may escape ; and then let his Friends determine among themselves, whether this *Anceps Remedium* is not *melius quam nullum* : Nor would I be thought so great an Opposer of Purging (any more than Bleeding at these Times, when the Fever is extreme, the Breast straiten'd by the Inflammation from the same) as to deny a laxative Medicine, that might just empty the Bowels when over costive. To which Purpose I usually prescribe an Ounce of Manna to be dissolv'd in a Quart of Pectoral Decoction ; a warm Draught of which may be taken at two or three Hours Distance, till the Intention is answer'd, without letting my Patient or his Friends know any thing of the matter ; and by going farther than this, or half an Ounce of the *Elect. Lenit.* in two
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or three Ounces of *Aq. Lac.* I must own I am not fully satisfy'd, whether I may not do more Harm than Good : As to the directing of diagrediate Medicines (which our Author insinuates may be safely administred) at a time of so great a Phlogosis of the Blood manifest by the dry Tongue and scorching Heat, I can only say, *præscribat qui vult, haud ego* ; and these Fears of some ill Consequence attending such Proceeding, as I have already inform'd you, are founded upon my Observation, how small a Number of Patients are restor'd, when seiz'd about this time with *Diarrhœa's*, symptomatical surely, rather than critical ; or if the last, a fatal Crisis, in Comparison of those who are destroy'd thereby.

As to *Phlebotomy* in the last Stage of this Distemper, 'tis of no Use, according to what a late Writer says, *viz.* That by Experience he never knew that Method succeed : I have formerly, *says he*, heard of one or two that recover'd, notwithstanding they were let Blood at the End of the second Stage ; but I cannot say that Operation did contribute to it ; and how the Diminution of the Blood, and thereby of the Strength and Activity of the Spirits, should be availing in this Case, I must acknowledge too difficult for me to conceive. If it be said, the Blood is in a great Flame, and the excessive Heat is ready to stifle and overset
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the Patient : to reduce that Heat, Recourse may be had to Clysters ; to the taking of the Patient out of Bed, and diluting Liquors ; and the active and cordial Medicines may now be given in greater Proportion to enable Nature to digest the putrid Parts, with which she is still oppress'd : And this will be the best Means to reduce the inordinate Heat, as the painful Inflammation of a Boil is abated, and the Fire extinguish'd, when the Matter is fully ripen'd.

But notwithstanding what this Author says, I can from better Authority assure you, That at this Time, there may happen such Cases as require *Phlebotomy*, and in which it ought to be practis'd. Thus 'tis observ'd, that a Flux in the Declination of the *Small-Pox* is generally mortal : And in this Case, since Purging is dangerous, and Astringents full of Hazard, there seems no Way so safe as *Phlebotomy* duly administer'd.

It may also happen that the Patient falls into a Pleurisy : Thus in the Case of *Frommannus*, in the Declination of the Measles, the Gentlewoman fell into a Pleurisy, which he endeavour'd to cure by *Phlebotomy*, and was defended in the Practice by the best Physicians in *Germany*.

And nothing is more certain in Physick, as a learned Man observes, than that the Use of *Phlebotomy* is not indicated by the Time
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of the Disease, or contra-indicated by any Number of Days, but by other Motives; and that whensoever it is necessary, upon any Urgency, nothing but Want of Strength doth repugn thereunto.

It may, perhaps, be demanded, whether upon the Declination of the *Small-Pox*, if there be any Danger of an Asthma or Consumption to be contracted, it be safe to let Blood, or in order to better Convalescency.

I profess it may safely, and prudently be done for Revulsion, before the Humours be more radicated and settled there, and the Disease become incurable: For this is an infallible Sign that the Disease is not well terminated; and then those Rules which oblige us not to intermeddle with any perfect Crisis or Indication, are infirm, conclude us not. Oftentimes we see Rheumatisms and Botches to ensue, and they shew, that all the morbid Matter is not ejected: Besides, in order to a better Convalescence, if *Phlebotomy* have been omitted in the Beginning, and that the Recovery is like to be slow, I think that it may be done; and I have seen it practis'd with a much more happy Success than ever I saw a Purge given in that Time.

'Tis certainly useful when the Breath is short, the Fever high, and great Inflammations. A late Author declares, he has seen it made use of, with almost miraculous Success,

Success, the twelfth Day, in a Case that seem'd hopeless.

And Sir *Theod. Mayern* tells us, That where he found (in Maturation) quick, short, and painful Breathing, with Danger of Suffocation, or vehement inflammatory Swelling (almost like an *Erysipelas*) in the Head, he immediately, without Delay, put Leeches behind the Ears, or to the Jugulars; or he open'd the Ranular Veins, which would sometimes pour out a marvellous Quantity, even to four Pounds of overheated Blood.

I shall conclude with this Intimation, That in sundry Cases, and some Habits of Body, 'tis possible that *Phlebotomy* may be supply'd by Cupping and Scarifying.

As to *Vomiting* in this Stage, I can't advise it, lest, as one says, thereby the Candle of Life, that burneth so weakly and waveringly, should be quite put out, to the everlasting Infamy of the Adviser.

As to *Blisters* in this last Stage of the *Small-Pox*, 'tis agreed, I think, by all Physicians, that they are absolutely necessary. Not as they cause Evacuation, for that is inconsiderable; but as they stimulate the Blood, and agitate the Spirits, and by that means quicken and assist them in the Labour of Digestion; and so they operate as proper Cordials, doing the same Office by external Application, which others perform when
given

given inwardly. But it often happens, as one observes, that the Case is not judged and determined on the eleventh Day at Night; it is frequently protracted longer to the thirteenth, fifteenth, seventeenth, twenty-first Day, and sometimes, though seldom, much farther: And while the Decision is thus suspended, all that the Physician has to do, is to order Clysters to be often injected; to apply Veficatories, so as to keep two always at work, to continue each Night the Quieting Draughts, to support Nature by generous and operative Succours, and wait her Steps for a favourable Issue.

Blifters also (as an excellent Practitioner declares) are necessary to rouse up the drooping Spirits, and give them sufficient Vigour to bear the Weight of Narcotics; which, in this their weak Condition, they could not well do without them: To prevent variolated Matter from running into and settling in the Brain; which would produce Inquietude, pertinacious Vigils, Delirium, Spasms, Coma, &c. To drain hot, corroding Serum (when apply'd between the Shoulders, or behind the Ears) off from the Glands of the Mouth and Throat, and by that means succour and ease those inflam'd Parts, upon the going away of Salivation. To serve as additional Sewers, for the more plentiful Evacuation of the noxious corrupted Humours, when the Salivation

livation is ceased, and the Swellings of the Head, Face and Hands, suffice not to carry out enough : He advises an Epispastic on the eighth Day, in order to meet the second Fever, which is expected to make an Invasion about this Time, or soon after. And where it is found necessary, I appoint a Supply of them the ninth and tenth, that they may be in full Force the eleventh and twelfth, those great decisive Days. All the time of the Epispastics, it will be needful, that the Patient drink plentifully, especially Emulsions, with *Sal Prunella* dissolv'd in them ; or he may take Camphire made up into Pills.

Diuretics and Sudorifics are in this frightful Extremity useful : And as Cordials are now of service, Ambergreese and volatile Salts are reckon'd best ; and Wine, spirituous or aromatic Cordials to be avoided as Poison, for they will flush up the Fever to the highest Pitch, and cause, Vigils, Frenzy, Convulsions, Coma, and the like mortal Symptoms.

Here Attemperants, Refrigerants, and Attenuants, and Acids are to be used ; *Sal Prunel.* with *Ol. Vitriol.* are very serviceable ; but let it be observ'd, that they are never to be given together, because when they are mix'd, they produce something that hath a Cognation with *Aq. Fortis*. And nothing can be done without Paregorics :
These,

These, with Acids, are the best Medicines, if the Fever is high, if there be Watchings or Delirium, if Hæmorrhagies, red Flushings or petechial Spots appear. Dr. *Fuller* says, the *Ol. Vitriol.* must not be dulcify'd with Spirit of Wine; for that dulcifying is, in his Opinion, quite spoiling it of its Virtue, and rendring it a weak Business, good for nothing.

But here I can't omit the Advances made by a late Writer in this Distemper (*F. Bel-linger*): He is for the warm Regimen, according to Dr. *Morton*, who throughout his precedent *Rationale*, as well as in the subsequent Histories, reprehends the contrary Proceeding; which he deliberately confutes, and descends even to mention the *Materia* made use of in the cold Regimen; such as *Sp. Vitriol. Decoct. Alb. Diacod.* and the like; and says, that he was inform'd, that Dr. *Sydenham* himself had, towards the latter Part of his Life, gone off from that Opinion. And that he was in the Wrong, (*says this Writer*) will appear, if we take but very little Pains to consider the *Ætiology* of the Disease itself, or the Operations of Nature under it. For what is it that Nature is doing? Or how can she perform that visible Diaphoresis (if I may so call the Eruption) but by a Warmth somewhat higher than her constant Tenor, so that she acts herself in the Alexipharmic Way,
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and that must, beyond Contradiction, be the right? Could we either substitute any other Discharge to carry off by it with Safety the repell'd morbid Humours; or if ever a sudorific or expulsive Operation (of that kind) could be perform'd, without the Constitution being somewhat more than commonly warm, there would be room to say something; but when this can never be, which must be confess'd by all, there will need but very little Argument or Persuasion to direct us which of the two Regimens ought to be chosen. And yet, notwithstanding the Apparency of the Case, there are still some so blindly devoted to the following that otherwise great Man, and even notwithstanding their own ill Success, that they go on in a supine, fatal Bigottry and Dependence on his Word, and think that *Sydenham's* Name is sufficient to shelter and justify their own Inattention to Nature herself. Infomuch, that I have heard it (with some Pain) affirm'd, That *Diacodium* was the *Panacea* which would do every thing, and that nothing could be done without it; that it was in the *Small-Pox*, like the Cortex in Intermitting Fevers, &c. And however diversify'd the Disease might be, it has been, upon the ill Success of the first, doubled and trebled, and given the Patient without the least Guard. *Diacodium*, says he, is questionless sometimes a proper, as
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it is a specific Medicine. But suppose we meet with a comatose sleepy Disposition in the Beginning, and it should attend the Distemper in the other Stages, which in phlegmatic, pituitose Habits is very frequent; must we still proceed to give this roapy Opiat?

But I mention this Author chiefly upon account of two new Observations of his in this Disease: The first is, The Case of Women with Child, under its most dismal Symptoms; and so stated, as to be render'd even safer than that of other Women. The other is, The rare Use of Blisters, in case of Hæmorrhagies.

As to the first, says he; As soon as ever I have been call'd to a Woman with Child, and there has been reason to believe she would be seized with the *Small-Pox*; as by the usual Symptoms in the Person herself, or the Place where she lives being visited, together with her own Fears and Apprehensions being strongly employ'd or affected: In such a Case, without staying for the appearing of any other Sign, to make my Diagnostic certain, I always give something to prevent Miscarriage; and in this, 'tis presum'd, 'twill be agreed, I am performing my Duty, because such Administration can have no Mal-Tendency: Besides, the *Lucta* is so great, the Convulsion frequently so violent, at the same time that the poison-

ous *Miasmata* are making their Insults upon the Internals before the Eruption, that the *Placenta* is in great Danger of being very much loosen'd, if not immediately torn and divided from the Mother ; upon which the Symptoms must be aggravated. And under this Oppression, while Nature is held in this unhappy Dilemma of attending one to the other, either to expel the Disease or preserve the Embryo, and is not able to perform both ; during the Hesitation, both Mother and Child are in the most imminent Danger of being lost : Immediately therefore I order the following Bolus and Draught.

℞ *Pulv. Rad. Tormentil.* ʒ℞. *Bistort.* gr. x.
Cort. Cinnam. gr. viij. *Cons. Cynosbat.*
 ℥ij. *Syr. de Ros. sic.* q. s.
 F. *Bolus, quem capiat Ægra quam pri-*
mum & superbibat Haustum sequentem.

℞ *Aq. Cin. Hord.* ʒi℞. *Theriac.* ʒvj. *pulv.*
e Chel. Cancror. simpl. ℥j. *Sacch. Alb.*
 q. s. f. *Haustus.*

After this has been taken about two Hours, I then order the Alexipharmic Draught hereafter mention'd. In which you see I regard both the Pregnancy of the Mother, as well as endeavour to get the Enemy at the same time remov'd to that convenient Distance from the Vitals, that we may, with
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some tolerable Safety, parly with him. The Bolus and Draught against Abortion, I certainly repeat at the End of four Hours after taking the first; but then omit it for twelve Hours, except some peculiar Reasons from the Patient oblige me to repeat it sooner. The Signs of an approaching Miscarriage, and that of the natural Birth being so very like, and Women being so abundantly sensible of the Particularities in that Case, I need not take up any Room here in reciting them: Upon which Occasions and Informations, I repeat the Bolus and Draught every three, four or five Hours, as need shall require; the Person herself being kept in Bed, in the most quiet Disposition and Posture that 'tis possible, till these threatning Signs abate. But still I would have the Decoction of Figs hereafter spoken of, in proper Intervals, freely used, (and likewise the Alexipharmic Draught sometimes) as being what will dilute the Fervency of the Blood, and help to break and divide the morbid and peccant Matter from it, and is a good Diaphoretic besides. I generally repeat the two Medicines against Abortion once every twenty-four Hours, as there is Opportunity, so as not to interfere with the Medicines necessary to bring forward the general Disease. But however, when that is near the State, and grows towards a Crisis, I never omit giving it twice at least in twenty-four

Hours. After that is over, I withdraw these restraining Medicines to once in that Time; then to once in two natural Days, and then to once in three or four Days. When the Crisis is past, and all the Symptoms much abated, and Nature under a sensible Alleviation and Refreshment, we may, with Reason, believe the Patient out of Danger, consider'd singly in the Mother; so that the Embryo ought now to be our peculiar Regard. As soon therefore as 'tis manifest that it may be done without Hazard, I would have the inferior Intestines emptied of the Fœces by the common domestic Clyster of Milk and Sugar. The same may be repeated the next Day; and then intermitting a Day, it may again be made use of, if the Strength of the Patient will admit of it. But I do positively declare against any purging Medicine being taken at the Mouth by Women with Child; because it puts the Child into the utmost Danger of being expell'd before its Time.

Out of many of his historical Cases, I shall only mention one, which I think comprehends all in this Affair that he has advanc'd.

The First CASE.

On the 19th of May, 1715. I was sent for to the Wife of Mr. *Robert Withnor* of *Uffington*, a Mile from *Standford*, where I found

found her Midwife with her. For being within a Fortnight or three Weeks of the Time of her Delivery by her own Account, tho' she had Reason to believe she was then attack'd by the *Small-Pox*, she was willing to imagine, that the Pains she then had on her might be only those precedent to her Delivery. Two of her Children, and her Maid-servant, had then the *Small-Pox* in the House. The first thing I endeavour'd at was, to dispossess her Mind of those Terrors she had form'd by herself from her present Circumstances, by assuring her, that her Condition was not desperate, even tho' she should have the *Small-Pox*; to which she gave but little Credit: For she argued, that in course, the Time of her Delivery must come on before the Disease could be finish'd, and then die she must. This Despondency was very discouraging: However, I order'd her a Draught with half a Drachm of the Alexipharmic Powder. This was about four a Clock in the Afternoon, and another to be taken at the Hour of Rest. By these she had a very quiet and good Night's Rest, and the Pains were very much relaxed. In the Morning there appear'd here and there a few of the *Small-Pox*, which, with the Abatement of the Pains, sufficiently inform'd her of what her Condition was, or soon would be. This created such an Astonishment, and even Despair, that all I could

say was not able to create any Satisfaction to her Mind, even tho' she confess'd her self, at present, somewhat better. The Eruption was regularly perform'd by the Help of the Alexipharmic, but she was very full, even to the cohærent Kind. Thus Things proceeded with great Ease to the twenty-fourth Day of the Month; when she was deliver'd of a Son very safely, and every thing relating to the Birth natural and common in the like Cases, only the Waters were very large in Quantity, and the *Lochia* pushed away in a very great Flood. Upon this, the Pustles lost their Colour, and immediately sunk, so that they seem'd like so many white Warts. Upon this the Patient was extremely faint, pale, and delirious, and nothing expected or thought of but the Approaches of Death. As I found every thing must, and did turn upon the Loss of Blood in the Flowings of the *Lochia*; and considering, that what might prevent a Miscarriage, might also be efficacious in suppressing the Floodings, I resolv'd to make use of the Method I had propos'd to myself to make use of, as soon as any Occasion should offer. I order'd her therefore the following Powders to be taken every two or three Hours, in four or five Spoonfuls of the Decoction.

℞ *Pulv.*

℞ Pulv. Rad. Tormentil. 3j℞. Cinnam. 5j.
Sacc. Pyramid. 3ij. m. f. pulv. in 4 Char-
tuals distribuend. Capiat unam secunda,
vel tertia quâq; hora in cochlear. quinq;
Apozem. sequent.

℞ Rad. Tormentil. 3ij. Cinnam. 3℞. pulv.
C. C. C. 3j. coq. in Aq. f. f. q. ad 1℔℞.
Colatur. adde Sacch. Albiss. 3vj. m. f.
Apoz.

This answer'd my Design, for the *Lochia* very soon diminished, and by taking the Alexipharmic Draught every Night and Morning, the Pustles came a little forward, but not to any perfect Maturation. However, after a long and lingring Weakness, she perfectly recover'd; as did ten more in the same Family, tho' some of them were visited in the severest manner; the sad Marks of which will ever remain upon them whilst they live.

His other Observation is, The rare Use of *Blisters*, in Case of *Hæmorrhagies*.

These, *says he*, sometimes appear even before any other Signs, and prevent the Struggle Nature generally makes to throw off the Disease from the Center to the *Peripheria* (*Dr. Morton's 7th Hist.*) Sometimes bleeding at the Nose, spitting of Blood, or an immediate Flux of the Menfes appear

just at the Eruption ; by which Nature in that necessary Effort is so debilitated, that she can't perform nor go thro' that Task ; and then the Enemy again retires to the Vitals, and acts all imaginable Mischiefs. I am well aware what *Botallus*, and many others say, That the Loss of Blood will not produce the Effect here charg'd ; but I must desire to be excus'd from resigning my Sense and Reason : both which I must do, should I make any Doubt of the Retiring of the poisonous Particles of this Disease ; when upon the Loss of Blood, I see the Humours secreted from the Blood, disappear, and a visible Paleness spread in its stead, both on the Face and all over the Body, which no one can deny, who has made any Number of regular Observations. But to return to *Blisters*. These Bleedings, as I said before, being occasion'd by the dissolvent pestilential Particles in the Serum of the Blood, breaking and dividing the red Globules into a præternatural Smalness, and by that putting the Blood into a Fusion, forces it thro' the Capillary Branches of the Blood-Vessels : But the Blisters drawing off this saline, deleterious Serum, by abating its Quantity, the Globules aforesaid are at liberty to attract each other, and by that means to form themselves into their genial and natural Size ; and so the Symptom ceases : For I had frequent Occasion to observe

upon the SMALL-POX. 265

observe in Persons that have been seiz'd with the most violent Effusion of Blood, that as soon as the Serum has begun to fill the Blister-Bladder, the Bleeding has constantly ceased. And thus even the Quantity of the peccant Matter may be said to be diminish'd. But where Persons are averse to Blisters, as too frequently they are, we need not be entirely at a Loss, nor have Recourse to that desperate Expedient of *Plebotomy*; for I do assure you the Powder does it as certainly, and after a manner (as I suppose) much like the Blisters; for by very soon procuring a *Diophoresis*, the morbid Matter is brought to the Exteriors; and by Sweat, the deleterious Serum lessen'd.

But I cannot approve of Blistering at this time a Day, for Reasons above-mention'd.

Pulv. Alexipharmacus ad Variolus. F. B.

℞ *Pulv. Rad. Tormentil. ʒij. Contrayervæ ʒss. Pulv. chelar. Cancrī totius rejectis unguibus minor. ʒiv. Laud. Londinens. sine odor. ʒj. Sal Succin. vol. veri ʒv.*

M. F. Pulvis subtilis, & exactissime miscetur. Servetur singula semiuncia separatim in Phiolis bene obturatis, & in loco arido.

Paretur etiam sine Laudano.

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As to the Salt of Amber in this Powder, *says he*, being directed as an Alexipharmic, (and 'tis certainly the noblest and most generous one in the whole Pharmacutic kind) that I think is also new.

But that I might neither impose upon my self nor my Readers, I have again and again review'd the whole *Materia* of Dr. Sydenham, Dr. Morton, and others, and cannot once find it administer'd as such, which has been Matter of greater Wonder than Pleasure to observe. I could willingly enter into a long Account of its Excellency, and a *Rationale* of its Operation; but I shall abridge myself of that Pleasure, and in few Words only say, That tho' it be reckon'd among the volatile Salts, yet as it vastly excels any of them in its Effects, it greatly differs from them in its very Nature. Most, if not all the other, have a burning Caustic Quality in them; as is evident in *Sal volat. C. C. Cranii, vel Ossium humanorum*. And all Sorts of volatile Salts of Bones, and Bone-like Substances, or those sublim'd from other saline Bodies, as *Sal Salis Armon. Sal Urinæ*, &c. and even *Sal Viperarum* is not much cooler. This any one may satisfy himself in, who will but venture to taste them naked as they are; and must consequently create a Thirst, and are hardly in any Vehicle possible to be reconcil'd to the Taste or Stomach. But *Sal Succini* is really almost
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as cool as the most natural elemental Salt, and even extinguishes feverish Heats. In short, it is Alexipharmic, as it is an excellent Counter-poison; it is Cephalic, greatly relieving the Head and the whole nervous Kind, and wonderfully reviving the Spirits at the same time: It is diuretic and diaphoretic, in its provoking, and that gently both Sweat and Urine; nay, it prevents the other warm Alexipharmics from acting in too inflammatory a manner, and yet gives them Energy and Action. And farther still, it guards and defends the Brain from the Deliriums, Stupors, or any comatose Affections, which the Opium might cause: So that thus taken, there is seldom any more than a gentle and refreshing Sleep produc'd; so absolutely necessary thro' all the Stages of the *Small-Pox*. I could here proceed to place it in Opposition to all the *Theriacalia* and *Bexoardica* whatever, but it would carry me too far; once for all, I will say, that it is the best I ever made use of, neither have I in some hundreds found it disagreeable to the Stomach or Head of any one.

The Proportion of the *Laudanum* in this Powder may be observ'd to be about one Grain to two Scruples, and thus it may be adapted to the smallest Infant; for if two Scruples be mix'd with a Julap of six Ounces, or that may consist of about twelve Spoonfuls,

Spoonfuls, one Spoonful at a time will contain so little *Laudanum*, that not the least of any Danger can be apprehended from it; and with Truth, Confidence, and Experience I can attest it, that as an Anodyne it far exceeds *Diacodium*, or any the mildest Opiats: Besides, it may be prepar'd without the *Laudanum*: But all this must be left to the Discretion of the attending Physician.

His *Alexipharmic* Draught.

℞ *Aq. Lact. Alex. Germ. Querc. ana* ℥j.
Theriacal. ℥vj. *Pulv. Alex. nostri* ℥℥. *vel*
℔ij. Syr. de Aurant. ℥℥. *m. f. Haust.*

If the Pains and unquiet Tossings be such that no Rest can be obtain'd without Help, at the End of twelve Hours from the first Attack, and not sooner, without apparent Necessity, let this Draught be given; and let it be repeated every eight Hours: But if there be violent Symptoms, such as bleeding at the Nose or Mouth, *Fluxus mensium immodicus vel præmaturus*, excruciating Pains, Watchings, or the like, it may be repeated every six or every four Hours. The precedent Dose is fitted for adult Persons; but for Children of one, two or three Years old, five Grains is sufficient; and to be repeated according to the Age and Strength of

of the Patient, or the Quantity each time given. The Vehicle above-mention'd is what I generally make use of; but the Powder may be given in a little Syrup, small Sack-whey, or any thing else except *Diacodium*.

And here I cannot omit repeating his Opinion of *Diacodium*; I have heard it (*says he*) affirm'd, that *Diacodium* was the *Panacea*, which would do every thing, and that nothing could be done well without it; that it was in the *Small-Pox* like the *Cortex* in the Intermittent Fevers, &c. and however diversify'd the Disease might be, it has been, upon the ill Success of the first, doubled and trebled, and given the Patient without the least Guard.

Diacodium is questionless sometimes a proper as it is a pacific Medicine: But suppose we meet with a comatose, sleepy Disposition in the Beginning, and it should attend the Distemper in the other Stages, which in phlegmatic, pituitose Habits is very frequent, must we still proceed to give this roapy Opiat?

As to the Liquids to be taken in this Distemper, he is not for such large Quantities of malted Liquors, *i. e.* Small-Beer, as is generally admitted; nor is he totally for denying them: but he is altogether almost for the following Decoction:

℞ *Ficuum Pingui.* ℥ss. *Cochinel.* 3℥. *Coq.*
in A. f. q. f. ad ℥ij. sub finem addendo
Vin. Canar. ℥iv. *plus minusve, Bulliant*
semel, tum adde Syr. de Rub. Id. 3℥.
f. Apoz. & refrigeratum bibat ad li-
bitum.

This Liquor, *says he*, exceeds any that I have known made use of ; for it keeps the Throat and Passages of the Lungs free and open, gently promotes the Eruption, at the same time that it exhilarates the Spirits, and abates the Thirst ; and I have not met among some Hundreds with any one Person but what was pleas'd with it : For in Small-Beer, there is generally, in Fevers, a most unwelcome Clamminess succeeding the drinking of it. And thus much from this Author.

Since I wrote this, I met with a late deceas'd Author, Dr. *Holland*, who recommends a moderate Regimen and temperate Medicines in the *Small-Pox* ; the following *Alexipharmic* one he recommends, and which, from Reason and Experience, he is persuaded will answer the principal Intentions in the Cure of the *Small-Pox*.

℞ *Lap. Contrayerv.* gr. xv. *Bezoar. Mi-*
neral. gr. x. *Sal. vol. Succin. opt.* gr. vj.
Extract. Opii Theb. gr. ss. *Partis*
Liquid.

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Liquid. Confect. Rawleigh ʒj. Syr. de Mecon. q. s. m. exactissime f. Bol. sumend. vesperi, & repetend. pro re nata.

The *Lapis Contrayervæ*, says he, is sufficiently known to be a temperate *Alexipharmic*, and absorbent; the Virtues of *Bezoar Mineral*, tho' recommended by the best Physicians of the last Age, are little known in present Practice, because few have made Trial of it; it promotes Perspiration or Sweat, and, which is extraordinary, cures a Fever without giving Heat; that is, removes the Obstructions in the Capillary Vessels, and restores a free Circulation: But 'tis difficult to meet with this Medicine rightly prepar'd.

(I remember *Poterius* gives it this Character: *Bezoar Minerale in febris non est ex infimis, sudorem movet, & transpirabile reddit corpus. Sitim pariter extinguit, & ardores reprimit, alvum lubricam reddit, & omnium humorum acrimoniam corrigit.*)

Salt of Amber, says he, is a volatile penetrating Acid; hence it stimulates the Nerves, raises the Pulse, promotes Perspiration, and the Secretions by Urine, &c. 'Tis well known to be an excellent Remedy in dangerous Fevers, where the Nerves are affected, and would produce extraordinary Effects, if it was given in a sufficient Dose,

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as I have often with Pleasure experienced, by ordering above twice the Quantity generally prescrib'd. This is a dear Medicine, and much adulterated.

But there is yet a greater Advantage, which very few are acquainted with, by joining this volatile Salt with Opium; by which happy Mixture, both these noble *Alexipharmic* Medicines are improv'd to the highest Degree; the Relaxations, Stupors, Deliria, or Convulsions, sometimes attending the improper Administration, or Preparations of Opiates are prevented, and instead of Watchfulness, Phrenzy, and a horrid Train of nervous Symptoms, we safely procure Ease, Refreshment, and Sleep, the greatest Cordials and Support in this terrible Distemper.

I have given a small Dose of Opium in this Composition, intending it as a Cordial rather than a Paregoric, in Imitation of Dr. *Freind's* Practice; besides, that it may be more conveniently repeated, or we may add a composing Draught, as there is Occasion.

The last Ingredient is *Rawleigh's* Confection, a generous Cordial and Alexipharmic, in which *Rad. Torment. Bisfort. &c.* being temperate Restringents, make it less heating, and improve the Composition, which has not been taken Notice of, tho'

Riverius

Riverius has an excellent Observation to that Purpose, viz.

Lentils, says he, have been rejected by several of the Moderns, because they are restraining, and they fancy, on that account, hinder the Eruption of the *Small-Pox*. (*De Prax. Med. Cap. de Variolis.*)

But we ought not rashly to reject the Authority of so many great Men in the Profession, but rather to conclude, (which is not at all unreasonable) that *Lentils* and *Gum Tragacanth* moderate the Inflammation and violent Ebullition of the Blood, by their restraining and incrassating Qualities.

If the Symptoms of the Inflammation run high, he is for diluting plentifully with small Liquors, acidulated with *Sp. Vitrioli dulc.* whereby the Ebullition of the Blood will be restrain'd. I take, (*says he*) the dulcify'd Spirit of Vitriol, if rightly prepared, to be much preferable, except in *Hæmorrhages*, to Dr. *Sydenham's* famous *Sp. Vitriol.* because the first is open'd by the Sulphur in the Spirit of Wine, made volatile, penetrating, and more agreeable to the Stomach, &c.

Dr. *Shaw*, in his new Practice of Physick, pag. 146, says, That Spirit of Vitriol should not be continued for many Days, because it tends to coagulate the Blood.

But as this volatile Acid is a nice Preparation, and very difficult to be met with, I shall communicate the Recipe as follows :

℞ *Ol. Vitriol. rectif. ℥j. Sp. Vin. Gall. rect. ℥iij. m. paulatim, digere per mensem frigide, & distilla. s. a. ad siccitatem.*

We may warm this volatile Acid in particular Cases with *Tinct. Spect. Diamb.* and thereby make an extempore Remedy, far exceeding *Mynsicht's Elix. Vitrioli.*

As there are no Directions in any of our Dispensatories for making *Tinct. Spec. Diamb.* it may be of use to mention the following Stomach Tincture often order'd to be kept in the Shops by the late Dr. *Freind.*

℞ *Spect. Diamb. sine Odor. Rad. Galang. ana ʒjss. Croci, Coccinell. ana ʒss. cum Aq. Absynth. m. c. ʒix. Extrahatur leni Calore Tinct.*

The following Apozem, *he says,* will answer most, or all the Intentions of moderating the Inflammation, sheathing and softening the Acrimony of the morbidic Particles by Diluents and Incrassants, as well as by Restringtons strengthening the Blood.

℞ *Ficuum*

℞ *Ficuum* Ping. ℥ij. *Sarsap.* ℥j. *Lentium* ℥ij. *Coq. in. Aq. font.* ℔ij. *ad ℔ij. Cōl.*

'Tis to be drank plentifully for common Drink ; and he recommends it as an agreeable, as well as efficacious Remedy. In the Beginning likewise, in order to temper, dilute, and sheath the Acrimony of the Blood, to preserve the Texture of it, and to fortify it in some measure against the Impressions of the Disease, he recommends the following Apozem warm'd, for his common Liquor.

℞ *Aq. Hord.* (*cum Gum. Arab. 3x. incoct.*) ℥xx. *Aq. Cin. ten.* ℥vj. *Aq. Theriac.* ℥ij. *Syr. e Rub. Id.* ℥ij. *Sp. Vitriol. q. s. ad gratam Aciditatem. m. f. Apozema.*

If there is occasion for a Vomit, he prefers warm Water, or thin Gruel, to the Infusion of Carduus Leaves, either to be given alone, or to work off the *Indian Root*, or *Oxymel Scilliticum* ; because if these Liquors are not wholly discharg'd from the Stomach, they will in no degree heat or offend the Blood, as the Carduus Tea might be apt to do. After an Emetic, he advises, if it is indicated, the following Draught :

℞ *Sal Absynth.* ʒj. *Succ. Limon. rec. Syr.*
e Mecon. ana ʒv. *Aq. Cin. Ten.* ʒj. *m.*
f. Haustus.

This Draught may be repeated, sweeten'd with Sugar instead of Diacodium, whilst any Disorder in the Stomach, or high Ebullition of the Blood continues, to the Patient's great Advantage.

Those also that suspect the Stypticity of the Spirit of Vitriol, may have Recourse to this cooling, neutral Salt instead of it, in any Stage of the Disease.

And to heighten the afore-mention'd Decoction of Figs, and to render it of more general Use, during the Maturation of the Pustles, he orders the following one:

℞ *Decoct. præscr.* ʒxiiij. *Aq. Theriac.* ʒj℥.
Tinct. Croci Aq. Theriac. extract. ana ʒ℥.
Syr. de Althæ. ʒj. *Crystal. Mineral.* ʒj℥.
m. f. Apozem. cujus assumantur ʒiv.
repide 5tâ vel 6tâ quâque horâ.

This is properly a cooling Cordial, promotes the Salivation, supports the Pustles, and yet mitigates the Heat of the Blood. For such is the Dilemma of the Disease, that it demands a Method which may answer this End of asswaging the Heat of the Blood, and of invigorating, so as to discharge its morbid

morbid Particles at the same time. And this shews how far they err that fall into the Extream of either the hot or cold Regimen : Because there are two different Indications to be answer'd ; and in this consists the Difficulty of the Case, and the great Nicety in the exact Conduct of it.

If notwithstanding the repeated Use of this Apozem, the Fever should increase, the indented Pustles should advance slowly, the Secretions in general be sluggish, and the Inquietude great, the following Bolus may be very seasonably and advantageously given.

℞ *Pulv. Cantian. Rub. juxta Pharm.*
Batean. gr. xvj. pulv. Viper. Bezoar.
Min. ana ʒss. Sal Succin. vol. gr. iv.
Laud. Lond. gr. ʒ. Succ. Kerm. q. s. m.
f. Bolus. 6â vel 8vâ quâq; horâ sumendus,
cum, vel sine Laudano, prout res po-
stulat.

The *Pulvis Cantianus* includes every thing that is in *Gascoign's Powder*, or *Lap. Contrayerv.* with this Advantage, that it is both more cooling, and yet more cordial. The Points of the Acids adhering to the Alkaline Bodies, when they are admitted into the Capillary Vessels, give them such gentle Vellications, and at the same time break through, and attenuate the viscid

Cohesions of the Humours, that they produce the two Requisites to promote every Secretion, that is, they increase the Impulse, and lessen the Resistance.

As to the second Ingredient, the Ancients esteem'd Vipers among the highest Alexipharmics, and therefore *Andromachus* directed them in his *Theriaca*, and several practical Writers since his Time so often celebrate them in all malignant and epidemical Distempers. But besides their very great Efficacy in Disorders of this kind, by the same Qualities they have been experienc'd to succeed beyond any thing in Diseases of the Skin. Therefore where the Crisis is by the cutaneous Glands, it will be unnecessary any farther to observe how it may be promoted by the Force and Activity of this generous Remedy.

Where there is no Objection to the Expence of it, and the Languor of the Pulse and Spirits, and the Backwardness of the Disease demand a Medicine of distinguish'd Virtue, the Powder of Vipers may be omitted, and eight or more Grains of volatile Salt substituted in the room of the *Sal Succin.* or, among the meaner Sort, Salt of Amber may be exchange'd for Camphire, and the Viper Powder be still retain'd with the Bezoar Mineral, even in a double Dose, if the Circumstances of the Case should make it necessary. And if some of Sir *Walter Rawleigh's*

leigh's Confection was given in a proper Mixture after it, I think it would be needless to raise the Cordial any higher.

℞ *Aq. Lact. Alex. Ceras. nig. ana* ℥ij.
Cin. Ten. Theriac. ana ℥ij. *Confect.*
Rawleigh. ℥ij. Syr. Aurant. q. s. m.
Cap. Coch. iiij. vel v. post Bolum supra
præscriptum, agitâtâ prius Phiolâ.

In flighter Cases, this Cordial Mixture would not only be unnecessary, but improper, and therefore a common Pearl Julap might supply its Place, to be given after the Bolus, as it was first directed.

As to the *Sal Succini*, it seems well suited to the above-mention'd State of the Blood, where contrary Indications call for a blended Method, and where in this Medicine they are agreeably answer'd by its cooling Acidity, qualify'd and actuated by its volatile Pungency: And 'tis obvious, that these Remedies do not offend with the vehement Heat of *Rad. Serpentar. Sal C. C. Theriac. Androm.* The two first of which may often justly be suspected, tho' the latter is sometimes not improperly mingled with the Opiate at Night.

But if the Fever should run high, with a hurry'd Pulse, inflammatory Redness of the Skin, the Pustles extremely small and thick, like an *Erysipelas*, or Rash, *Sal Suc-*

cini may be left out, and *Rad. Tormentil.* would better fill the Place of the *Pulv. Viperarum.* We are then to guard against too great a Disunion of the Parts of the Blood, when the Inflammation rises to such a Degree as to occasion fatal Hæmorrhages and a Mortification in the whole Mass. Here still the Countess's Powder, Bezoar Mineral, and Tormentil Root promise us great Assistance; and, I think, a better Medicine cannot be given after them than the Apozem with Crystal Mineral, in which we may omit the Tincture of Saffron, if the least Inconvenience from its Heat should be apprehended.

This Method, with some Preparations of Vitriol, will supply us with Remedies as effectual as any, to curb the inordinate Inflammation, to prevent the spreading Dissolution, and at the same time to separate the morbid Particles of the Blood.

In a *Dyspnœa*, that last and fatal Symptom, he advises to Blister freely, add *Sperma-Ceti* to the Bolus, particularly when we give an Opiate, which should be *Elix. Asthmat.* in *Quincy's Pharmacop.* (as containing *Honey, Flor. Benzoin. Camphor. Ol. Anis, &c.*) a ʒj. ad ʒij. in a Draught after the Bolus. But is against Bleeding in this Extremity, unless the Pulse is full, and the Constitution naturally firm: But if the Pulse is low, or oppress'd, we must accurately

rately distinguish whether it is from a *Phlethora*, or from a real *Languor* of Nature.

I should not have quoted this Author so largely, but that I think his Method is generally agreeable to Reason and Experience.

I cannot conclude this Treatise without inserting the Opinion of a late anonymous Author, whose Observations are the most agreeable to what I have these thirty Years, in this and other Distempers, observ'd in my own Practice; and it is this:

Among the Crowds of Diseases that afflict Mankind, the *Small-Pox* requires a nice Management, and therefore I shall in few Words give a Detail of the Nature of this Malady, in order to clear up the Sort of Diet that ought to be made Choice of in it: Whether they were understood by the Ancients, or not, is an useless Discourse, and Piece of History little to the Reader's Purpose. I know *Lommius* calls them by a Name which was us'd among the Ancients (*ἰζανθήματα*): But whether they and he us'd that Word in the same Sense, will bear a Dispute of as great Consequence as other Parts of our Histories of Physick are or can be of. There is a Fever for three or four Days, that precedes an Eruption, greater or smaller; and these Pimples run the very same Course that a common Itch does; that is, they break forth in small Pimples, grow
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red and larger ; they turn into Matter of various Colours, according to the Degree of Acrimony in the Blood and Juices, and then they scab and fall off : The Fever that preceded, ceases upon the Eruption, if the Matter of the Pimples be free of Acrimony, and be few ; but if its Acrimony be great, and the Matter not laudable, there is another Fever that accompanies their Throbbing, which is an inflammatory one ; and a third attends the Ripening of them, which is a putrid one, from a Resorption of the Matter : The first Fever is depuratory, and is rais'd from the Acrimony stimulating the Heart and Arteries, and being thrust out by the Force of the Circulation from the Blood-Vessels, it takes its Course. There is an observable Remission in the Fever after Eruption, even of the worst Kind ; and, till the Pimples all over begin to be painful, and throb, the inflammatory or symptomatical Fever does not commence in Earnest ; and I think it is easy for any Practitioner to distinguish this Fever from the putrid one, which is also symptomatical, by the Symptoms that characterise these two from each other : But as various Tendencies of these Fevers, and of the Eruption, do often thwart each other, it is not much to be wonder'd at, that Patients are hurry'd so suddenly off. It is a Business that will employ the nicest Judgments to
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come but tolerably off. But when the Management is left to Chance, or to what may justly be reputed worse, the Expectation of Life must be very precarious, where the Number of Chances is so small. I shall not take upon me to determine what Species of Acrimony reign in the Blood ; however, we may partly know by the Colour of the Matter contain'd in the Pimples. For where the Matter appears of a greenish Colour, and the Scabs are whitish, it is a shrewd Argument of an Acidity : There is a strange Propensity in this Matter to settle about the Face and Head ; and where the Face is loaden with Pimples, the Head is generally seiz'd also, as appears by the comatous or sleepy Symptoms that accompany this plentiful Eruption ; so that Physicians do greatly observe, whether there be many on the Face, and do take many of their Prognostics from thence. I shall not dispute whether there can be assign'd any mechanical Reason for this Eruption on this Part, or no : But it may happen upon the same Account that we see heavier Bodies to run to the upper and farthest End of a revolving *Syphon* ; and as Salts do appear to reign in the *Small-Pox*, from the Ravage they make on the Skin, where certain Signs of Septicity are seen and discover'd by the naked Eye, the Earth they lodge in gives them Weight enough to entitle them to be call'd
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the heaviest Bodies of our whole Mass of Juices : and this may, perhaps, be as tolerable a Reason as can be given for this Affair. I make no doubt, but the Pores of the Face being daily expos'd to the cool Air, have a Rigidity given them, that resists the Motion of the Fluids passing that Way, and transpires fewer Steams than other Parts ; and this may be another Reason why the Face is more loaden. But the Management of their Diet being my chief Aim in these Sheets, I shall descend to some Observables that will guide us in its Choice. The Fever is sometimes slow, and at other times it rages greatly before the Eruption : This Fever depends on an Acrimony that dissolves and agitates the whole Mass of Juices, and which increasing the Blood's Bulk, causes a Distention in the Vessels, and Pain must ensue where the Vessels press upon the Membranes, that is in the Head and Back : A Redness of the Face, is no other than a greater Distention of the Vessels of the Face, from whence the Blood runs into the Capillaries ; the Difficulty of Breathing, which is often very great before the Eruption, is but the Inflation or Dilatation of the Blood-Vessels of the Lungs, whereby the Air-Chamber is lessen'd, and less Air can be drawn in than formerly ; that is, the Lungs resist its Entrance, and fall forcibly down again : These, and many
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more arising from the same Cause, on different Parts of the Body, destroying or lessening their Functions, are worth Notice. The more regularly the Pimples appear, the greater Hopes are there that the Blood's Acrimony is small : For where they appear later than the fourth Day, it is just to conclude, that there are fewer Spirits separated than there should be by Nature, and that there is a preternatural Viscidity in the Juices that hinders this Secretion of them : From whence it will follow, that the Blood's Motion is too slow, and incapable of throwing out that extraneous Matter which *Morton* calls Poison ; but where this Expulsion is earlier than the fourth Day, then is the Blood too much hurry'd on, and Spirits are secreted in a more large Proportion than usual : Here the Blood's Consistence is dissolv'd into a Putrilage, and sometimes does not cake at all, when let out of a Vein, or thrown out by Bleedings. This latter Case is a plain Argument of an alcalious Acrimony. Either State preternatural to any pitch, bodes Danger, because, through the whole Stages of the Inflammation, the Physician is either spurring or biting ; he is either bleeding, or cooling ; or blistering, or giving warm Cordials : and, if he can, by his painful Industry, keep the Juices moving on, and give them a due Consistence, it is odds, but he gains his Point

at last ; and if he fails, who can wonder ? Torrents will overwhelm Castles ! I have said so much as to lead my Readers into the Diet and Regimen proper for their Sick : In general, Warmth is necessary to soften the Skin, and force the Matter lodg'd to run its Stages over with greater Safety ; wherefore, let the Air of the Room be inclining to Warmth, that the Pores may be open'd, and that the Matter dispatch'd to the Skin may not be repell'd, which would be of ill Consequence ; and also that the Pimples may be capable of receiving all that is proper for their Increase.

Their Diet must be ever thin, and plentiful, because the Acrimony must always be diluted by watery Liquors, and a gentle Warmth of the Liquor dissolves the Grumes of the Blood ; and they should be taken with a plentiful Hand ; because the Salivation will go on more regularly thereby, which, in the dangerous Sort, is often curb'd for want of a due Consistence : I therefore advise Gruels, Sack-Whey, and Emulsions for ordinary Liquor. If there be a great Heat attending them, we must take Care to avoid too strong Things : But, if on the contrary, there should be a Defect of Heat, then are you to mix Wine along with all they take, to excite a just Motion in the Blood, and to give them Life to support the Pimples, that nothing may retire into the Blood,

Blood, and taint it, which is frequently so sudden, that the Patient you left in a hopeful Way, is carry'd off before the next Visit. All salt Things, or spic'd Meats are improper : The Blood is already too much loaden with Salts ; our Business must be to wash them out of the Vessels. Sleep is a desirable Blessing : What with Throbbings and Pressure of the Pimples, this can hardly be obtain'd ; and therefore Opiates become highly necessary thro' the whole Course of this Disease, save the Time preceding the Eruption. How far we must encourage Stools, is much controverted among the Learned ; whilst some plac'd a great Part of the Cure in Purgatives themselves, till they were terrify'd by the Number of ill Successes ; and others, on the other hand, are very heedless of this Discharge, dreading every Stool to be a Forerunner of a Flux : However, as Nature ought to answer every Day, the same must happen here ; and, if she is sluggish, ought to be promoted by a Clyster, or a Suppository : and as all Ranks of Practitioners cry up the good Effects of Opiates in this Malady, there can be no Apprehensions of a Flux, where they are every sixth, eighth, or twelfth Hour oblig'd to give them to their Patients.

'Tis the Observation of a late Writer, that the *Small-Pox* are not always so univocal as to have the same Symptoms in all Persons ;

Persons ; nor is the Fever always so alike circumstantiated, as to require the same Remedies at all Times: Nay, it is a Demonstration supported by Reason, and confirm'd by daily Practice, That the Methods which would relieve any Symptom in one Person, will inevitably destroy another under the same, when it proceeds from various Conditions of the Fever, Strength, and Age of the Person labouring under this Malady. So that he that would pretend to any one Method of Cure in the *Small-Pox* for all Constitutions, for every State of the Fever, and at all Seasons of the Year, would soon put an End to the Lives of his Patients, and acquire an odious Character. I shall conclude this Treatise with a few Observations of that *Italian Hippocrates, Baglivi*, upon this Subject.

Among acute Distempers, *says he*, the *Small-Pox* makes no inconsiderable Figure ; and in regard the Mass of Blood is then inflam'd, and as it were set on Fire, and blown up by a malignant Sort of Air, a Physician stands in need of a great deal of Learning, Prudence and sagacious Patience in managing the Cure ; nay, he is bound religiously to observe the Motions of Nature, or else he will fall into pernicious Mistakes.

Those who purge in the Beginning of the *Small-Pox*, or exhibit violent Diaphoretics, do frequently add Fuel to the Fever,
and

and excite internal Inflammations, Delirium, inflammatory Disorders of the Lungs, most violent Coughs, and a great many such like Symptoms.

The Eruption of the *Small-Pox* is the Work of Nature ; for which Reason Nature ought to be obey'd, and its Motions humour'd, and back'd by seasonable Remedies. In earnest, in the Cure of Diseases, especially such as we call Acute, a great Part of Wisdom lies in keeping our Minds untainted with the Prejudices of Sciences, and our Theory clear of the Errors of the Schools, as well as unbiass'd by Humour and Inclination ; and in taking Care not to thwart the Motions of Nature by unseasonable Remedies.

If the Blood boils too high ; if it flies up to the Head with a rapid Current ; if Inflammations of the *Viscera*, and Deliriums are at hand ; in such Cases, I instantly let Blood, and that in a Quantity answerable to the Urgency of the Occasion. In the mean time, I prescribe Jelly of Hartshorn, the Emulsions of the Seeds with Water of Violets, the Oil of Sweet-Almonds with Broth, qualify'd with the cold Seeds ; by which means I partly check the impetuous Force of the Blood, and keep it from ranging beyond the Bounds of its Channel. This Method I continue to the fourth Day ; at which time, if the *Small-Pox* begin to
U appear,

appear, I assist, and second the Motion of Nature's Progress; I give a various Turn to my Medicines, pursuant to the various Impetuosity or Mildness of the Humours.

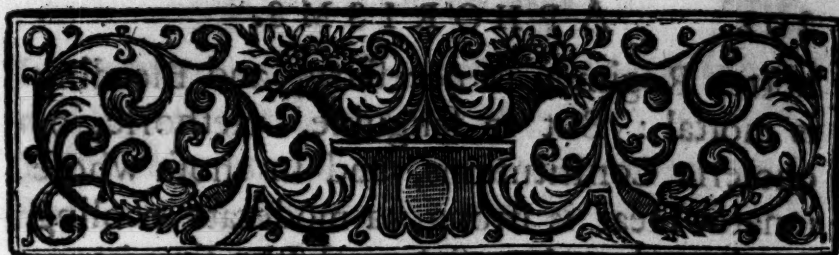
If the Blood flies impetuously up to the Head; and if the *Hypochondria* be distended, I order Sponges soak'd in warm emollient Decoctions to be apply'd to the Palms of the Hands and Soles of the Feet, and by that means the Symptoms are much abated.

I may safely say (*adds he*) without infringing upon the Measures of Modesty, that I have oftentimes cured inflammatory Fevers, especially those which accompany the *Small-Pox*, by Bleeding, and a thin Diet, with a prudent and seasonable Use of diluting Medicines: And when I pursu'd this Method, I never had a Patient ill of the *Small-Pox*, that dy'd under my Hands.

In mentioning Bleeding as part of the Cure of the *Small-Pox*, I only meant, that I use it when the over-bearing Heat of the Fever, the Impulse of the Humours upon the Head, or other *Viscera*, and such like Symptoms, do require it.

DEO TRIUNO *Laus sempiterna.* Amen.

APHO-



A P H O R I S M S

IN THE

S M A L L - P O X .

I.

IF the Stomach be clogg'd with gross Humours, a Vomit may be safely given in the Beginning, which will prevent a future Looseness, which chiefly happens in phlegmatic Constitutions.

II.

As a cold Regimen in the *Small-Pox* often proves fatal ; so likewise an over-hot one is dangerous, because it often produces high Fevers, Frenzies, &c. therefore a moderate one must be used ; but with this Difference: That in phlegmatic Constitutions, and where the native Heat is weak, a

hotter Regimen is necessary, and Bleeding is mortal : But in sanguine, plethoric, or choleric Constitutions, and in those whose innate Heat is strong, a moderate cooling Regimen is to be used, and Bleeding is extream necessary.

III.

More die by too hot a Regimen than by a cold one. But in this, and all other Cases, have Regard to the different Constitutions.

IV.

In the first Days, the Patient must carefully avoid all things that may exasperate or provoke the Humours; he must abstain from cold Drink; he ought likewise to abstain from the Use of Remedies till the fourth Day. *Waldschmidt.*

V.

Seldom any one dies, because the *Small-Pox* comes not forth in the first Days, but because they come forth either too plentifully or too early. *Sydenham.*

VI.

Epileptic Fits, convulsive Motions, and the like terrible Symptoms, if they come in the Beginning, ought not to frighten us
fo,

for they are certain Signs that the *Small-Pox* will appear, unless they are caus'd by the Teeth that are breeding then in Children : But if they happen to the Patient in the latter End of his Disease, they are very dangerous.

VII.

Blisters in the Beginning, especially on the Back, are very bad, but very necessary in the latter End.

VIII.

Those that are full grown, if they die, generally die frantic : Hence the Heat is in those more to be restrain'd than increas'd.
Waldschmidt.

IX.

Those that spit much, seldom die. *Ibid.*

X.

Those Symptoms that happen on the eighth or ninth Day in the Distinct Kind, and those on the eleventh or twelfth in the Confluent Kind, must be carefully observ'd ; for they generally determine, whether the Patient will live or die.

XI.

If upon those Days, the Swelling of the Face and Hands continue, it is a good Sign ;

but if both Swelling and Salivation cease, it is a mortal Sign. *Waldschmidt.*

XII.

Pissing of Blood, which happens mostly in young Men, is mortal: So likewise an obstinate Suppression of Urine. *Ibid.*

XIII.

In the Declination of the *Small-Pox* there happens very often a Looseness, which may be easily cured by the *Terra Sigillata*, or the Breathing of a Vein, with an Opiate.

XIV.

In what is call'd the Second-Fever, such Things are to be frequently taken as will ease and gently cool the Body and Blood; as the Spirit and Oil of Vitriol, the Juice of Lemons mix'd in this Drink, *Decoct. Alb. Cit.* and the like; but consider the Constitution.

XV.

Opiates are very good to check a Looseness, promote Expulsion of the Humours, and mitigate the violent nervous Symptoms.

XVI.

XVI.

Purges or Sudorifics in the Beginning of the *Small-Pox*, very much increase the Fever, occasion internal Inflammations, Deliria's, inflammatory Distempers of the Lungs, violent Coughs, &c. *Baglivi.*

XVII.

About the fourth Day, when the Pustles begin to break out, if the Head is affected with great Heat, *anxietate, motibus tendinum subfutorii*, &c. I presently order Cupping-Glasses to the *Scapulæ*, and in an Instant, by the Revulsion of the raging Blood, all the afore-mention'd Symptoms vanish, as often seen. *Ibid.*

XVIII.

The Measure of the Second Fever is not to be estimated by the outward Heat only, which may be greater in the external Habit than in the Blood (and should of right so be) but by the Pulse and Respiration.

XIX.

A gentle Mercurial Purge, with *Bezoar. Miner.* will do more Service for Loosenesses in Children, especially if occasion'd by Worms, which is often their Case, than all

the preventing or preparatory Remedies generally recommended. *Holland.*

XX.

If their Fever and Inflammation are great, 'tis safer to prescribe some Preparations of Vitriol, which strengthen the Blood at the same time, and abate the Inflammation, &c. or endeavour to remove the Obstructions in the Capillary Vessels, which occasion the Fever, by *Bézoar. Miner. &c.* than to advise Bleeding, which often weakens and impoverishes the Blood, and is contrary to the Nature of the Distemper. *Ibid.*

XXI.

In Difficulty of Breathing, Bleeding is proper, even though the Pulse be low and weak; for 'tis observ'd, that the Artery vibrates stronger afterwards; which shews, that the Lowness of the Pulse was owing to Oppression, not Weakness: Besides, in so bad a Symptom, 'tis better to try a doubtful Remedy than none at all; and if we do not make Haste, 'twill be too late.

XXII.

A Clyster at the Height of this Distemper is safe and useful, to empty the Bowels, and restrain the Violence of the Fever.

XXIII.

XXIII.

A Delirium before the Eruption is of no great Consequence, but happening afterwards is a fatal Symptom.

XXIV.

Hæmorrhagies, as bloody Stools, Urine, &c. are the most dangerous Symptoms in this Distemper.

XXV.

The Diagnosticks of this Distemper in general, at the Beginning, are taken from the manner of Eruption, and the Fever.

XXVI.

Few outlive the fourteenth or fifteenth Day, unless by a long and troublesome Salivation, a great Flux of the Urine, or much Swelling of the Hands and Feet.

XXVII.

A strong and equal Pulse, however terrible the other Symptoms are, denotes Strength of Nature and Spirits, to resist the Malignity of the Distemper.

XXVIII.

XXVIII.

A weak and irregular Pulse, tho' other Symptoms are milder, is always a Sign of great Malignity, and little Force in the natural Powers to throw off the Infection.

XXIX.

The Urine, if in the Beginning, is high colour'd, and full of Sediment, it denotes a kindly Fever; but pale and clear Urine, especially if there is often Occasion to make Water, is a very dangerous Symptom.

XXX.

A continual Coma, or Lethargy, violent and fix'd Pains in the Loins or Intestines, if there is but little Fever, are very bad Signs. *Morton.*

XXXI.

If about the Crisis the Pulse rises; if the Inquietude, Vomiting, Nausea, wandering Pains, Epileptic Fits, Deliria, and other Signs of Strength of Nature increase; if Fluxes, Hæmorrhagies, colliquative Sweats, Wakefulness, and the Symptoms which weaken Nature, decline, we may hope for a favourable Crisis, and a happy Conclusion in the Progress of the Disease. *Ibid.*

XXXII.

XXXII.

Spirit of Vitriol in this Distemper is proper, as well as other temperate Restringtons, to check the Inflammation and violent Ebullition of the Blood, moderate the Fever, prevent a hurry'd and imperfect Separation, and procure a regular and compleat Eruption.

XXXIII.

If the Malignity is first on the Spirits, the Patient has no feverish Heats, nor Thirst, Urine pale, Pulse quick and weak, little Vomiting and Sickness; in these terrible nervous Cases we must raise the Spirits, and promote the Circulation by generous Alexipharmics, Volatiles and Cordials, apply Blisters, &c.

XXXIV.

In the latter End of the Distemper, when the Salivation is stopp'd, and the Patient in Danger of being choak'd by viscid Phlegm, where expectorating Medicines and Gargles are ineffectual, a proper Emetic in this Extremity has saved many Persons from the Jaws of Death. *Holland.*

XXXV.

XXXV.

Bleeding in the Beginning, before the third or fourth Day, generally weakens the Cohesion of the Blood, renders it more susceptible of the Infection, robs the Pox of the Humours necessary to support them, and therefore is attended with dangerous Consequences, and ought not to be practis'd but in Cases of Necessity. *Sydenham.*

XXXVI.

When Bleeding is indicated, the Bleeding in the Foot is preferable to any other : For the lower Vessels being emptied, the Blood issuing from the Heart will meet with less Resistance in the descending Trunk of the *Aorta* : It will be determin'd to flow that Way in a greater Quantity ; so that the Vessels of the Head, which in this Distemper are the most subject to be inflam'd, will receive much less of it, and may therefore be able to recover their Elastic Tone. *Helvetius.*



THE



I N D E X

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